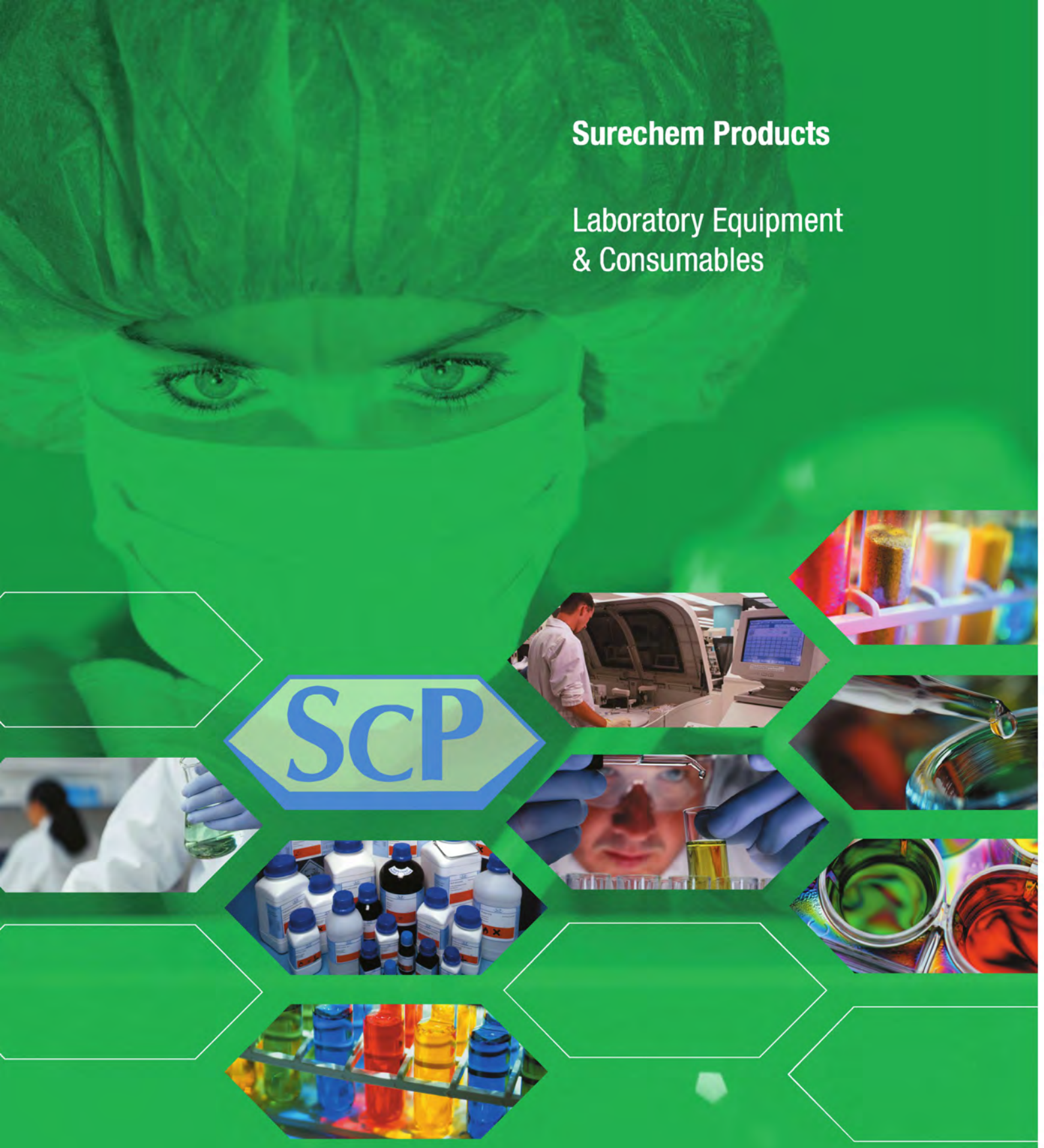
Surechem Products

Laboratory Equipment & Consumables



Catalogue **Version II**

SCP SURECHEM PRODUCTS LTD

Surechem are pleased to offer a comprehensive range of over 14,000 items of laboratory equipment and consumables from their on-line catalogue.

The catalogue is updated on a monthly basis and provides a single source solution for equipment and instrumentation, which augments the SCP on-line Chemical and Reagent catalogue.

SCP also welcome your enquires for products not listed in their catalogues and for projects and complete laboratory installations.

Filter Papers and Membranes
In addition to the main catalogue, SCP are also UK distributors for the extensive Albet LabScience range of filter papers and membranes.

Hahnemuhle who produce the Albet LabScience range have over 30 years experience in manufacturing these products to the highest quality at competitive rates. Full details and specifications can be found by clicking on the Albet LabScience logo on the Equipment and Consumables page of our web site.

Enquires and orders
To place an order with SCP, request a quotation or for more information on any of the items in either catalogue please

email us at sales@surechem.co.uk or
Fax: +44 (0)1449 722 483 or
Tel: +44 (0)1449 722 143

Please include:
a) Catalogue number or reference for the item
b) A brief description
c) Quantity required

Some Useful Information

Pipettes Colour Coding

One Mark

Cap ml	Colour code
1.0	Blue
2.0	Orange
5.0	White
10.0	Red
15.0	Green
20.0	Yellow
25.0	Blue
50.0	Red
100.0	Yellow

Graduated

Cap ml	Sub-divis ml	Colour code
0.1	0.001	2 Green
0.2	0.002	2 White
0.5	0.05	2 Black
0.5	0.005	Green
1.0	0.01	Yellow
1.0	0.1	Red
2.0	0.02	Black
5.0	0.05	Red
5.0	0.1	Blue
10.0	0.1	Orange
25.0	0.1	White
25.0	0.2	Green

Ingress Protection (IP) Ratings

The two figure IP-- rating number comprises the following combined elements. An "X" can replace the other digit if there is only one class of protection.

First number

Protection level against solid objects.

IP0– Not protected

IP1– Protected against objects over 50mm (hand)

IP2– Protected against objects over 12mm (finger)

IP3– Protected against objects over 2.5mm (tools)

IP4– Protected against objects over 1mm (wires)

IP5– Protected against dust, limited ingress (no harmful deposit)

IP6– Totally protected against dust

Second number

Protection level against liquids.

IP–0 Not protected

IP–1 Protected against vertically falling droplets of water (condensation)

IP–2 Protected against sprays of water up to 15° from vertical

IP–3 Protected against sprays of water up to 60° from vertical

IP–4 Protected against sprays of water from all directions, limited ingress

IP–5 Protected against low pressure jets of water from all directions, limited ingress

IP–6 Protected against strong jets of water from all directions

IP–7 Protected against effects of immersion between 0.15 and 1m deep for up to ½ hour

IP–8 Protected against long periods of immersion under pressure

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pH/Ref. Electrodes

Preparation for use

All sensors are shipped with the measuring end covered with a soaker teat filled with storage solution. Remove the soaker teat from the electrode and keep in a safe place for future long term storage. There may also be dried crystals of the storage solution present following leakage from the teat during transport. This is normal and they should be rinsed away using deionised water.

After rinsing the measuring end with deionised water, the electrode is ready for use.

During shipment it is possible for air bubbles to move into the glass bulb. To remove the air, shake down the electrode in the same manner as a clinical thermometer until the glass bulb is filled with solution.

Electrode Storage

pH glass electrodes should be stored in a pH4.0 Buffer for both overnight and long term storage.

Reference and Glass/Plastic combination electrodes should be stored in a 3.0 Molar KCl solution (pH adjusted to 4.0) if they are single junction types. Use a 3.0 Molar solution of the appropriate salt if double junction types.

Electrode Care and Cleaning

Slow response and non-reproducible measurements are signs that the electrodes have become coated or clogged.

If the glass becomes coated or clogged the time taken to make a measurement will increase (normally 95% of final reading should be achieved in less than 10 seconds).

Rinsing with methyl alcohol should remove the coating and restore the speed of response.

If the methyl alcohol rinse does not restore the response, soak in 0.1M HCl for five minutes. Remove and rinse with water and place in 0.1M NaOH for five minutes. Remove, rinse again, and soak in pH4.0 buffer for 10 minutes before use.

Common Solvents

(Approximate data)

	Boiling point °C	Flash point °C	Wt/ml g
Acetone	56.5	–20	0.790
Benzene	80	–11	0.877
Butan-1-ol (n-butyl alcohol)	117	+29	0.809
Carbon tetrachloride	77	—	1.593
Chloroform	61	—	1.476
Diethyl ether	34.5	–40	0.714
Ethyl acetate	77	–4	0.900
Ethanol	78	+13	0.790
Butanone (methyl ethyl ketone)	80	–1	0.805
Propan-1-ol (n-propyl alcohol)	97	+15	0.804
Propan-2-ol (iso-propyl alcohol)	82	+12	0.785
Toluene	110	+7	0.865
Xylene	140	+25	0.863

Absorption

Tower

All dimensions for Tower and Tubes are nominal.

Tower
Glass, with ground 24/29 socket neck and 19/26 socket base tubulure. Overall height 310mm, diameter 45mm.

AB050-10 Tower

Tubes

Straight Form
Glass, with one bulb and tube for bending. Dimensions are length excluding narrow tube x external diameter.

	Dimensions
AB090-10	100 x 12mm
AB090-15	150 x 20mm
AB090-20	200 x 25mm

Plain U-Form
Glass, dimensions are overall length x diameter of the U.

	Dimensions
AB110-10	100 x 12mm
AB110-15	125 x 15mm
AB110-20	150 x 20mm

U-Form with Side Arms
Glass, dimensions are overall length x diameter of the U, side arms approx. 6mm diameter.

	Dimensions
AB130-10	100 x 12mm
AB130-15	125 x 15mm
AB130-20	150 x 20mm

Absorption Tubes, U, angled, straight – *see Quickfit section.*

Gas Washbottles – *see Gas Collection and Quickfit sections.*

U-Form with Side Arms and two ground-in stopper-stopcocks
Glass, dimensions are overall length x diameter of the U, side arms approx. 6mm diameter.

	Dimensions
AB150-10	100 x 12mm
AB150-15	125 x 15mm
AB150-20	150 x 20mm

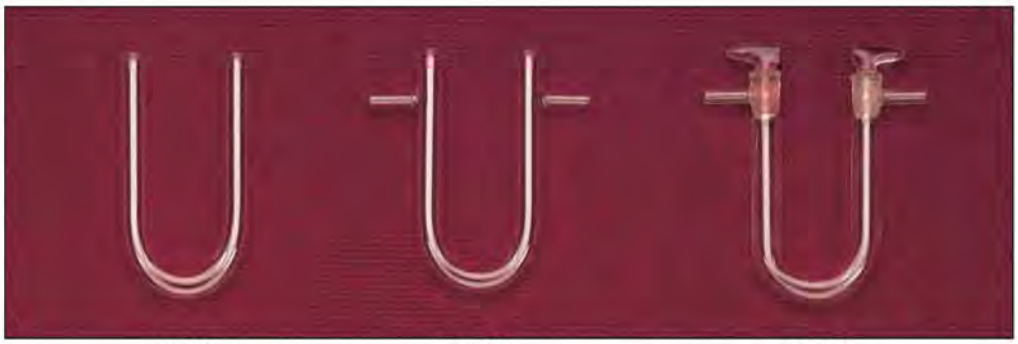
Arnold
Borosilicate glass, two bulbs, overall height 125mm, diameter 26mm, side arms 6mm diameter.

AB180-10 Arnold

Midvale
Borosilicate glass with ground-in stopper. Overall height to upper side arm 125mm, nominal body diameter 34mm, side arms 6mm diameter.

AB190-10 Midvale


AB050


AB110 ***AB130*** ***AB150***


AB090


AB180


AB190

Adapters

Plastic, Micro

Micro tubing adapters. Natural polypropylene†. Precision moulded. For low pressure applications. Supplied in packs of 100.

	Limb size, to fit tubing i.d.
Straight	
AD062-05	1.6mm
AD062-10	2.4mm
AD062-15	3.2mm
AD062-20	4.0mm
AD062-25	4.8mm
Elbow, 90° bend	
AD064-05	1.6mm
AD064-10	2.4mm
AD064-15	3.2mm
AD064-20	4.0mm
AD064-25	4.8mm
T-shape	
AD066-05	1.6mm
AD066-10	2.4mm
AD066-15	3.2mm
AD066-20	4.0mm
AD066-25	4.8mm
Y-shape	
AD068-05	1.6mm
AD068-10	2.4mm
AD068-15	3.2mm
AD068-20	4.0mm
AD068-25	4.8mm
X-shape, 90° cross	
AD069-05	1.6mm
AD069-10	2.4mm
AD069-15	3.2mm

†Other materials, such as coloured nylon, clear or radiation-stable polycarbonate, or Kynar are available subject to minimum quantity requirements. Reduction/expansion adapters are also available - *details on request.*

Luer micro tubing connectors. Natural polypropylene†. Precision moulded. Allow secure, easy connection and disconnection of microtubing with different diameters. For low pressure applications. Supplied in packs of 100.

	*Luer type**	*Barb for tubing i.d.*
AD085-05	Male	1.6mm
AD085-10	Male	2.4mm
AD085-15	Male	3.2mm
AD085-20	Male	4.0mm
AD085-25	Male	4.8mm
AD085-80	Female Luer plug closure with thread	
AD087-05	Female	1.6mm
AD087-10	Female	2.4mm
AD087-15	Female	3.2mm
AD087-20	Female	4.0mm
AD087-25	Female	4.8mm
AD087-80	Male Luer plug closure with locking collar	

*With thread (female) or locking collar (Male).

Adapters, Luer

For low pressure applications. Straight pattern. Non-sterile. White nylon. With male luer and 6mm o.d. ferrule. Supplied in packs of 100.

AD095-09 Adapters

†Other materials, such as coloured nylon, clear or radiation-stable polycarbonate, or Kynar are available subject to minimum quantity requirements. Reduction/expansion adapters are also available - *details on request.*



AD069



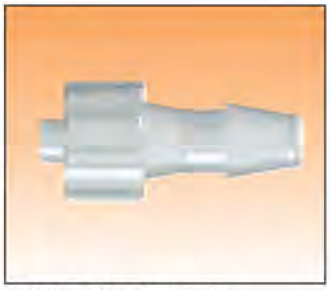
AD087-05 to AD087-25



AD062



AD066



AD085-05 to AD085-25



AD087-80



AD064



AD068



AD085-80



AD095-09

Adapters

Plastic

Azlon

All dimensions are nominal. These adapters are for low pressure applications.

T-pattern
With rigid, tapered arms except the 4mm size which has smooth straight arms. Autoclavable polypropylene. Supplied in packs of 10.

	Ref. CWH-	*o.d. mm*
AD100-10	204	4/7
AD100-15	206	6/7
AD100-20	208	8/9
AD100-25	210	10/12

Y-pattern
With rigid, tapered arms except the 4mm size which has smooth straight arms. Autoclavable polypropylene. Supplied in packs of 10.

	Ref. CWH-	*o.d. mm*
AD105-10	304	4/7
AD105-15	306	6/7
AD105-20	308	8/9
AD105-25	310	10/12

Straight pattern
With tapered stepped arms. Autoclavable polypropylene. Dimensions stated are the minimum and maximum for each end of the adapter. Supplied in packs of 10.

	Ref. CWH-	*o.d. mm*
AD110-10	600	4/7 & 4/7
AD110-12	602	4/7 & 7/12
AD110-14	606	4/7 & 10/15
AD110-18	604	7/12 & 7/12
AD110-20	608	7/12 & 10/15
AD110-24	610	10/15 & 10/15

PORTEX

All dimensions are nominal. These adapters are for low pressure applications.

Luer
Non-sterile. Nylon. With connections as indicated. Supplied singly.

	Fitting
AD180-09	6mm o.d. ferrule/luer male

Straight pattern, tapered
With tapered and stepped ribbed arms. Dimensions given are the minimum external diameters for each arm, in mm. Autoclavable. Supplied singly.

Polypropylene
AD190-17 6/6
AD190-22 10.5/10.5

Nylon
AD190-12 4/6.5
AD190-19 6/10.5

Standard Joint Adapters – *see Quickfit section.*


AD100


AD110


AD190-17 and -22


AD105


AD180-09


AD190-12 ***AD190-19***

Adapters, Plastic

Tubing Connectors
High quality polypropylene. Can be autoclaved. Supplied in packs of 10.

	For tubing bore mm
Straight	
AD220-10	3 to 5
AD220-13	5 to 7
AD220-16	7 to 9
AD220-19	9 to 11
AD220-22	11 to 13
AD220-25	13 to 15
T-shape	
AD220-40	3 to 5
AD220-43	5 to 7
AD220-46	7 to 9
AD220-49	9 to 11
AD220-52	11 to 13
AD220-55	13 to 15
Y-shape	
AD220-70	3 to 5
AD220-73	5 to 7
AD220-76	6 to 8
AD220-79	7 to 9
AD220-82	9 to 11
AD220-85	11 to 13
AD220-88	13 to 15

Screwthread Connectors
For use with 13mm GL13 screwthread outlets. Designed to reduce breakage and increase safety when fitting flexible tubing to side arms of suitably converted condensers etc. For 9mm bore flexible tubing. Polypropylene for use up to 140°C maximum or PTFE for enhanced chemical resistance and use up to 200°C maximum, as indicated.

AD255-10 Ref 4510/02, polypropylene
AD255-15 Ref 4510/04, PTFE

Spare Viton sleeve for AD255 connectors
AD256-06 Ref 4511/02

Screwthread holder for AD255 connectors
Facilitates connection and removal of AD255 adapters to, or from, tubing.
AD256-09 Ref 4512/02

Standard Joint Adapters – *see Quickfit section.*

Adhesives

The following adhesives can be exported by sea freight, deck cargo only.

Araldite – Rapid
Epoxy resin and hardener in pack containing tube of resin, tube of hardener and instructions.
AD700-10

Evo-Stick Impact adhesive
Neoprene/resin solution in an ester/hydrocarbon solvent. 40g tube.
AD710-10

Adhesive Labels, Plain – *see Labels section.*

Adhesive film for microplates – *see Microtitration section.*



AD220-10


AD220-70



AD700 AD710



AD220-40


AD255-10 AD255-15

Aluminium, Anaerobic Jar, Anemometers

Aluminium

Aluminium Foil
Suitable for a wide variety of laboratory applications including sealing of tubes, wrapping of columns, shaping into weighing boats, etc. In roll, dimensions are roll length x foil width.

AL200-11 75 metres x 100mm
AL200-13 60 metres x 450mm

Aluminium Basin - *see BF550-15.*

Aluminium Beakers - *see BN170-series.*

Aluminium Bottles - *see BS980-series.*

Aluminium Foil Dishes - *see DH798-series.*

Aluminium Racks and trays - *see SM450/SM470.*

Aluminium in Water test kits- *see WT300/WT530.*

Anaerobic System

Anaerobic Jar
Transparent polycarbonate jar, 3 litres, which accepts up to 15 plastic petri dishes of 60 to 100mm diameter using an accessory rack. The lid incorporates two valves and pressure gauge and is secured by spring clamps. Overall 120 x 270mm diameter x height.

AN205-15 For up to 15 dishes

Accessories

AN207-10 Petri dish rack for up to 15 dishes of 60 to 100mm diameter
AN207-25 "Anaerobic" generator kits. Produces oxygen-free atmosphere in approx. 30 minutes with <1% O_2 and 9 to 13% CO_2. Pack of 10 sachets.
AN207-35 "CO_2" generator kits. Produces CO_2 atmosphere in approx. 60 to 90 minutes with approx. 10% CO_2 and 15% O_2. Pack of 10 sachets.

Anemometers

For measuring wind speeds and air flows in ducts and tunnels.

Anemometer, cup
A portable hand-held instrument providing a direct reading of wind speed in four different units. With plastic outer case and cups and engraved scales. Ranges 0 to 120 km/h, 0 to 35 m/s, 0 to 12 Beaufort, 0 to 60 kt.

AN450-10 Cup model

Anemometer, vane
Portable, hand-held vane-type anemometer and thermometer for outdoor applications.

Ranges:-

Wind speed: 0.2 to 30m/s (alternative ranges: Beaufort scale, knots, km/h)

Temperature: -30 to +60°C (alternative range: -22 to 140°F)

Other functions include maximum and average wind speed, and Windchill temperature calculation. Overall 98 x 39 x 17mm L x W x D. Weight 110g. In splash-resistant case and supplied with soft carrying case, lanyard and batteries.

AN450-40 Vane anemometer
BL590-25 Spare battery, 3V



AL200



AN205-15 in use with AN207-10



AN450-10



AN450-40

Anemometers

For measuring wind speeds and air flows in ducts and tunnels.

Anemometers, Testo 435 series
Multifunction instruments for measuring airflow using hot-wire or vane-type probes, humidity, or temperature using accessory thermocouple probes.

Max. Ranges:- 0 to 40m/s, –60 to +400°C (dependent on probes selected), 0 to 100% R.H.

Resolution:- 0.01m/s, 0.1°C and 0.1% R.H.

Choice of model:-

— 435-1: Basic unit with menu-driven operation, dual display and infra-red download to accessory printer with printout of results, date and time

— 435-2: Generally as 435-1 but additionally with 10,000 reading storage, USB output port, cable and PC software

As described. Overall 225 x 74 x 46mm (L x W x D). Weight 0.45kg. Supplied with 4 x 1.5V AA batteries, calibration protocol and instructions. Without probes.

AN470-10 435-1
AN470-20 435-2

Spares and accessories for AN470-series

BL610-15 Spare 1.5V AA battery (4 required)

Telescopic hot-wire air velocity/temperature probe, 7mm diameter head x maximum extended length 820mm (ranges 0 to 20m/s, –40 to +150°C).

AN472-04 Hot-wire probe

Telescopic vane air velocity probe, 60mm diameter head x maximum extended length 910mm (range 0.25 to 20m/s.

AN472-06 60mm probe

Telescopic hot-wire air velocity/temperature/humidity probe, head diameter 12mm x maximum extended length 745mm, (ranges 0 to 20m/s, -20 to +70°C, 0 to100% R.H.

AN472-09 m/s, °C, R.H., probe

Humidity/temperature probe, range 0 to 100% R.H. and -20 to +70°C. Overall 115 x 12mm length x diameter.

AN472-12 Humidity/temperature probe

Temperature probes
Supplied with handle, cable and connector. All probes are 115 x 5mm length x diameter.

TJ802-17 NTC air probe, -50 to 150°C
TJ822-10 Type K thermocouple immersion probe, -60 to +400°C,
TJ822-19 Type K thermocouple surface probe, sprung, -60 to +300°C, with 12mm dia. tip

Thermal paper printer
With infra-red cordless data communication. Supplied with 4 x AA batteries and 1 roll of paper.

AN472-40 Printer

Spare thermal paper for AN472-40, pack of 6 rolls.

AN472-45 Paper
BL610-15 Spare 1.5V AA battery for AN472-40 (4 required)

Rechargeable battery charger for AN470-meters and AN472-40 printer
With 4 x NiMH rechargeable batteries and built-in mains adapter requiring a 100-240V 50/60Hz single phase supply.

AN472-15 Battery charger/pack

Apparatus for the determination of Arsenic can be found in the Quickfit section – *see Q1AD/1.*

Anemometer/Thermohygrometer, Testo 410-2
Rugged, pocket-sized meter with integral vane anemometer, humidity and temperature sensors with LCD readout of wind, airflow, or humidity and temperature. With timed mean value calculations, hold function, max./min. values and windchill calculation. Stainless metal display and keyboard surround includes on/off, mode and 'hold' buttons.

Airflow		
range	*m/s*	0.4 to 20
resolution	*m/s*	0.1
accuracy	*m/s*	±0.2
units		m/s, km/h, mph, knots, Beaufort, perceived temperature (windchill)
Temperature		
range	*°C*	-10 to +50
resolution	*%*	0.1
accuracy	*%*	±0.5
units		°C/°F
Humidity		
range	*% R.H.*	0 to 100
resolution	*% R.H.*	0.1
accuracy	*% R.H.*	±2.5 (5 to 95% R.H.)
units		% R.H. wet bulb, dew point
Overall, L x W x D	*mm*	133 x 46 x 25
Weight	*g*	90
Power		2 x 1.5V AAA batteries

As described. Supplied with calibration protocol, wrist strap, belt clip holder, metal protection shroud for the display and keyboard and 2 x 1.5V AAA batteries.

AN458-30 Testo 410-2
BL610-08 Spare 1.5V AAA battery (2 required)



AN470-10 in use with AN472-09



AN458-30

Aquaria

Suitable for fresh or salt water. Dimensions and capacities are nominal.

Aquarium
Transparent plastic, 15 litres. 220 x 370 x 250mm H x W x D.
AQ100-11 Plastic tank

Aquaria
Glass sided in plastic frame. All are 300 x 380mm width x height.
AQ115-10 65 litres, 600mm long
AQ115-15 100 litres, 900mm long

Covers
Hinged for AQ115 series.
AQ117-06 600 x 300mm
AQ117-10 900 x 300mm

Aquarium Accessories & Pump

Heaters
With thermostat and suction disc. For 200-250V a.c. single phase supplies.
AQ130-01 100W
AQ130-03 200W

Thermometer
0° to 40°C, with suction disc.
AQ135-10

Diffuser Stone
With inlet tube.
AQ140-10 25 x 25 x 25mm

Aquarium Polynets
On wire frame with handle.
AQ150-10 75 x 100mm
AQ150-14 125 x 150mm

Aeration Pump, diaphragm
Output approximately 1.5litres/minute free air. With 5mm o.d. air delivery tubes. Suitable for continuous operation. Overall 90 x 50 x 65mm. For 200-240V a.c. single phase supplies, 3W.
AQ180-02 1.5litres/minute

Diaphragm air pumps for continuous use – *see PX330/PX332.*

Liquid pumps – *see PX700/PX890.*


AQ150-series


AQ115-15 on stand


AQ100-11


AQ180-02


PX330

Aspirator Bottles

Pyrex® Glass

SciLabware
AZLON® MBL® PYREX® QUICKFIT®

Dimensions given are nominal and maxima, including stopper if supplied.

Pyrex 1531 series
With unground neck and bottom side arm for connecting 10mm bore flexible tubing. Without stopper.

	Ref.	Capacity ml	Neck i.d. mm	Bottle dia. x h mm
AS100-06	1531/06	250	18	73 x 131
AS100-08	1531/08	500	23	89 x 163
AS100-10	1531/10	1000	28	111 x 200
AS100-12	1531/12	2000	28	138 x 248

Pyrex 1541 series
With unground neck and 29/32 bottom side socket. Without stopper or stopcock.

	Ref.	Capacity ml	Neck i.d. mm	Bottle dia. x h mm
AS110-12	1541/12	2000	28	138 x 248
AS110-16	1541/16	5000	44	181 x 318
AS110-18	1541/18	10000	59	227 x 398
AS110-20	1541/20	15000	59	258 x 460
AS110-22	1541/22	20000	59	288 x 492

Pyrex 1569 series
With glass stopper and 29/32 bottom side socket. Without stopcock.

	Ref.	Capacity ml	Neck size NS	Bottle dia. x h mm
AS120-12	1569/12	2000	29/32	138 x 262
AS120-16	1569/16	5000	45/40	181 x 333
AS120-18	1569/18	10000	60/46	227 x 414
AS120-22	1569/22	20000	60/46	288 x 508

Accessories
Stopcock 1571/02, cone 29/32, bore 4mm. For 1541 and 1569 aspirators.
AS135-06 1571/02

Stopcock, Rotaflo 1568/04, cone 29/32, bore 3mm. With PTFE key. For 1541 and 1569 aspirators.
AS135-10 1568/04

Rubber bung stoppers for 1531 and 1541 series aspirator – *see Stoppers section.*

Flexible tubing, 10mm bore for 1531 outlets – *see Tubing section.*

Joint clips for securing 1571/02 and 1568/04 stopcocks into aspirators – *see QKC29 in the Quickfit section.*


AS135-06


AS135-10



AS100



AS110


AS120

Aspirator Bottles

Plastic

Azlon

Aspirator bottles, Azlon wide neck
Polyethylene HDPE, with screw cap, two handles and removable stopcock. Neck i.d. 240mm.

AS320-25 30 litre, BGH 068
AS320-30 50 litre, BGH 070
AS320-35 100 litre, BWX 072

Aspirator bottles, Azlon autoclavable, heavy wall, medium neck
Polypropylene, octagonal shape, with offset screw cap for easy pouring, integral handle and removable, boss-fitting stopcock.

	Ref. BNP-	*Capacity litres*	*Neck i.d. mm*
AS340-15	05A	5	45
AS340-20	10A	10	90
AS340-25	20A	20	90

AS340-75 Spare stopcock for AS340 series

Plastic

Aspirator bottles, narrow neck
Polyethylene HDPE, with screw cap and 12mm bore stopcock. Hexagonal shape, neck i.d. 49mm.

AS300-15 5 litre
AS300-20 10 litre

Aspirator bottles, narrow neck
Polyethylene. With screw cap, hinged handle at neck and 8mm bore stopcock.

AS390-10 2.5 litre
AS390-15 5 litre
AS390-20 10 litre
AS390-50 Spare stopcock for AS390-series

Aspirator bottles, narrow neck
Polyethylene. With screw cap, neck bore 50mm, side lifting handles and 12mm air-vented stopcock.

AS400-20 20 litre
AS400-25 25 litre
AS400-75 Spare stopcock for AS400 series

Large Capacity Plastic Bottles – *see Bottles section.*

Plastic

NALGENE®

Aspirator Bottles, Nalgene Lowboys™,
Polyethylene (HDPE). Low profile, with integral handgrip for safe, easy transport. Same size can be stacked three high. With polypropylene spigot tap and leakproof screw cap. Can be used with strong acids, bases, alcohols and ketones but not suitable for use with other organic solvents.

AS500-15 Ref 2323-008. Capacity 8 litres. Overall 368 x 305 x165mm W x D x H
AS500-20 Ref 2323-015. Capacity 15 litres. Overall x 368 x 368 x 203mm W x D x H

bürkle

Aspirator bottle, Bürkle Flachmann
Polypropylene. Space saving design which is only 65mm wide. Stable, rigid structure with integral carrying handle and tamper-evident closure, neck i.d. 41mm. A $^{3}/_{4}$" threaded connector at the base accepts an accessory stopcock which is rotatable about 180° to avoid dripping. Overall 65 x 335 x 335mm W x D x H. Accessory graduated scale and support stands are also available.

AS530-15 Flachmann, 5 litre
AS532-13 Support stand for 2 x AS530-15
AS532-17 Support stand for 3 x AS530-15

Spare stopcock for AS530 - *see SV944-20*


AS300


AS320


AS340


AS390


AS400


AS500


AS530/AS532 in use

Auto-Analyser Consumables

Sample Cups

Elkay
Polystyrene. Compatible with Bayer, Hitachi, I.L., Kodak and Olympus analysers (except AT150-40 which is compatible with Hitachi only). Supplied in packs of 1000.

AT150-15 0.5ml conical
AT150-20 2ml conical
AT150-30 4ml conical
AT150-40 2ml Hitachi

Ezee-Nest cups, Elkay
Polystyrene. For use with blood tubes of diameters as indicated. Samples are poured from blood collection tubes into the cup which is then placed inside the tube, eliminating the need to re-label. Supplied in packs of 1000.

AT155-25 1ml, for 13mm blood tubes
AT155-35 2ml, for 16mm blood tubes

Sample cups
Polystyrene. AT160-12 is compatible with Gemsaec analysers and AT160-15 is compatible with Technicon analysers. Supplied in packs of 1000.

AT160-12 0.5ml conical
AT160-15 1.5ml conical

Autosampler vials – *see Chromatography section.*

Tubing

Manifold Pump Tubing
Specially formulated PVC tubing which is heat treated for increased operating life, and resistant to a broad range of inorganic chemicals. For use with continuous flow analyser peristaltic pumps. Identified by the colour of the bridges which corresponds to the colour and location of the original equipment manufacturer. Distance between bridges is 152mm. Supplied in packs of 12 tubes each 406mm long.

ACCU-rated for use where flow consistency and accuracy are critical.

	Flow rate ml/min	*Bridge colours*
AT175-17	0.05	orange/blue
AT175-23	0.10	orange/green
AT175-26	0.16	orange/yellow
AT175-29	0.23	orange/white
AT175-32	0.32	black
AT175-35	0.42	orange
AT175-38	0.60	white
AT175-41	0.80	red
AT175-44	1.00	grey
AT175-47	1.20	yellow
AT175-50	1.40	blue/yellow
AT175-53	1.60	blue
AT175-56	2.00	green
AT175-59	2.50	purple
AT175-62	2.90	purple/black
AT175-65	3.40	purple/orange
AT175-68	3.90	purple/white



Sample cups



Manifold pump tubing

Portable Top Loading Autoclaves

- Suitable for sterilising both instruments and glassware
- Aluminium or stainless steel construction
- All models operate at 121°C
- Capacities 14 or 30 litres
- All models include:
  - — adjustable pressure relief safety valve
  - — pressure and temperature dial gauges
  - — air release cock and drain syphon
  - — resettable thermal cut-out (electric models only)

The drain tube removes steam and water and the partial vacuum created after sterilisation is used to dry the contents of the chamber.

Gas models require an external heat source which is not supplied. Temperature control is manual by adjustment of a pressure release valve.

Electric models have built-in electric heaters (ST19 models have one each 0.7kW and 1.3kW elements, ST3028 models a single 2kW element). ST19T and ST3028 models feature electronic temperature control. Alternative 'Vario' automatic cycle control models are available with a choice of three pre-set and one operator programmable cycles including adjustable temperature maximum 121°C and time from 1 to 99 minutes. Additionally a free-steaming facility with self-sealing aircock allows unattended operation. All electric models are supplied for use on 230-250V a.c. single phase supplies.

Lid closures. Aluminium models have a full width lid with gasket held by rim bolts. Stainless steel models have a quick access twist locking lid mechanism with nylon handled wingnuts and separate nylon lid handle.

Aluminium, 14 litres

Chamber 280mm diameter x 230mm deep. With fittings as described and aluminium liner. Accepts, but not supplied with, either two small or one large accessory drums, or one basket.

AU100-02 Electrically heated, ST19T
AU100-05 For gas heating, ST18
AU100-07 'Vario' controller, ST19V

Stainless steel, 30 litres

Chamber 280mm diameter x 490mm deep. With fittings as described and aluminium liner. Accepts, but not supplied with, either four small or two large accessory drums, or two baskets.

AU116-02 Electrically heated, ST3028
AU116-05 For gas heating, ST3028G
AU116-07 'Vario' controller, ST3028V

Autoclave Consumables

Deodorising Capsules – *see AU600.*

Disposal Bags – *see BA030/064.*

Indicator Tape – *see AU630.*

Sterilising Bags/Pouches – *see AU660/695.*

Accessories and Spare Parts

Drum, small, stainless steel.
AU117-06 Drum

Drum, large, stainless steel.
AU117-08 Drum

Stainless steel wire mesh basket, with single lifting handle, 240mm diameter x 220mm deep.
AU117-10 Basket

Bottle carrier, holds 4 x 1 litre media bottles. For 30 litre autoclaves, AU116 models only.
AU117-12 Bottle carrier

Lid gasket, spare for AU100 models.
AU117-22 Gasket

Lid gasket, spare for AU116 models.
AU117-24 Gasket

Heating elements. Supplied as 1 each 0.7kW and 1.3kW for 230-250V a.c. single phase supplies. Spare for electrically heated AU100 models only.
AU117-26 Heaters for AU100 models

Heating element. 2kW. For 230-250V a.c. single phase supplies. Spare for electrically heated AU116 models only.
AU117-27 Heater for AU116 models

Safety valve, spare, for all models.
AU117-30 Safety valve

Accessory gas rings and stands – *details on request.*



AU100-05



AU116



'Vario' controller in use

Automatic Electronic Autoclaves, Series 2100

Prestige Medical

Simple to use, reliable, autoclaves for sterilisation to ensure inactivation of all bacteria including the most resistant bacilli such as the spore form of clostridium tetric and HIV (AIDS).

- Top loading — capacity approximately 9 litres (standard models), 12 litres (extended body models)
- Specific models for media or liquid sterilising available, with lid interlock and controlled cooling function
- Automatic electronic time and temperature control with end of cycle cut-off
- Sterilisation cycle time 11 minutes
- Total cycle time less than 22 minutes (except media model)
- Utilises distilled/deionised water added directly into the chamber base
- Safety features include
  - — Lid locked onto body while under pressure
  - — Offset gasket device ensures correct location of lid
  - — Pressure relief valve which operates at 2.2 bar
  - — Lid plug which releases if pressure exceeds 2.6 bar
  - — Safety melt fuse to prevent over-heating
  - — Water level control which prevents sterilisation if water too low

These autoclaves meet Health Authority and MRC guidelines on sterilisation and provide satisfactory sterilisation of dental and surgical instruments including syringes and needles when placed in the instrument containers provided. In addition, all vessels comply with BS3970 part 4 and DIN58946 part 8.



AU125-15

Standard Models, 9 litres

Prestige Medical Autoclave, Model 2100-01
As specified. Cover and body material is aluminium alloy with powder coat paint finish. Carry handle, side handles and all mouldings are glass filled polyester. Indicator lights show power on, heating, sterilisation and cycle completion. Internal chamber 210mm diameter x 236mm high. Maximum instrument length 228mm. Overall 335H x 340W x 270D mm. Weight empty 4.5kg. Sterilising temperature 126°C (1.6 bar).

Supplied with instrument container, small instrument tray and lifter, vee-support, certificate of vessel compliance to BS3970 Part 4, performance test certificate, spare gasket, UK and European electrical supply cord sets, 2 x 10amp fuses and instructions. For 230V 50/60Hz single phase supplies 1.5kW.

AU125-15 Autoclave, 2100-01

Prestige Media Autoclave, Model 2100-47
Generally as AU125-15 but with sterilising temperature 121°C for minimum 22 minutes. Also incorporates a lid safety interlock which does not release the lid until the internal temperature has fallen to a safe level and a controlled cooling process, which protects glassware from thermal shock and media from boiling and leakage. For 230V 50/60Hz single phase supplies 1.5kW.

AU125-22 Media autoclave, 2100-47

Prestige Medical Autoclave, Model 2101-34
Generally as AU125-15 but with sterilising temperature 134°C (2.05 bar) and fitted with pressure gauges as required by BS3970 and additionally a thermocouple entry port mounted in the lid. For 230V 50/60Hz single phase supplies 1.5kW.

AU125-32 Autoclave, 2101-34



AU125-22



AU125-32

Extended Models, 12 litres

Prestige Medical Autoclave, Model 2100-02
As AU125-15 but with extended body, internal chamber 210mm diameter x 328mm high. Maximum instrument length 290mm. Overall 420H x 340W x 270D mm. Weight empty 4.5kg. For 230V 50/60Hz single phase supplies, 1.5kW.

AU125-45 Autoclave, extended body 2100-02

Prestige Media Autoclave, Model 2100-48
As AU125-22 but with extended body, internal chamber 210mm diameter x 328mm high. Maximum instrument length 290mm. Overall 420H x 340W x 270D mm. Weight empty 4.5kg. For 230V 50/60Hz single phase supplies, 1.5kW.

AU125-49 Media autoclave, extended body, 2100-48

Prestige Medical Autoclave, Model 2100-04
As AU125-45 but with extended body and fitted with temperature and pressure gauges as required by BS3970 and additionally a thermocouple entry port mounted in the lid. For 230V 50/60Hz single phase supplies, 1.5kW.

AU125-55 Autoclave, extended body with gauges, 2100-04

Spare parts and Accessories

Lid Sealing Gasket for all 2100 series units
AU127-09 Lid sealing gasket, 219748

Sterilisation Indicator Strips TST
Colour changes yellow to purple/blue on completing a successful sterilisation cycle. For use only in autoclaves providing an air-free, saturate steam environment.

AU127-25 TST indicator strips 126°C/10 minutes Box of 50, 219277

AU127-29 TST indicator strips 121°C/15 minutes and 134°C/3.5 minutes. Box of 100

Tray for Small Instruments
Polypropylene, can be mounted on AU127-44 or AU127-48 for multiple stacking when used in conjunction with AU127-35. Autoclaves AU125-15 and -32 accommodate 6 trays, autoclaves AU125-45 to AU125-55 accommodate 8 trays.

AU127-32 Tray, 219293

Vee-support
Stainless steel, for raising trays and containers off the chamber floor.

AU127-35 Vee-support, 219295

Standard Body Instrument Container
Polypropylene, with carrying handle and removable dividers. Requires vee-support AU127-35.

AU127-44 Standard body container, 219292

Extended Body Instrument Container
Polypropylene, with carrying handle and removable dividers. Requires vee-support AU127-35.

AU127-48 Extended body container, 219296

Front Loading Benchtop Autoclaves, Advance

Prestige Medical

Easy to operate, self contained, bench mounting autoclaves for sterilising solid and hollow instruments, glassware and linen loads (using vacuum model only); unsuitable for sealed fluids. Comply with MDD 93/42/EEC, HTM20, EN13060 and BS EN61010 parts 1 and 2. Pressure vessel complies with ASME section VIII.

- Choice of models with:
  - — 16 or 22 litre capacities
  - — non-vacuum or vacuum
- 134°C sterilising temperature (121°C non-vacuum cycle without drying also available)
- Single use water system complies with HTM2031
- Graphical cycle status display
- Stainless steel cylindrical chamber
- Triple-pulse fractionated vacuum system
- Six automatic cycles including automatic drying
- Digital cycle counter and pressure readout
- Clean water facility removes debris after every cycle to prolong operating life and maintain efficiency
- Accessory printer available

Specifications

Capacity	*litres*	16	22
Chamber dia. x length	*mm*	250 x 330	250 x 430
Maximum instrument length	*mm*	300	450
Operating pressure	*Bar (psi)*	2.05 (29)	2.05 (29)
Sterilising period	*non-vacuum models* *vacuum model*	3 minutes 3 or 18 minutes	3 minutes —
Trays, number x maximum length		6 x 282mm	4 x 282mm, 2 x 398mm
Supply requirements		230V 50Hz, 2.2kW — both models	
Overall H x W x D	*mm*	410 x 480 x 440	410 x 480 x 560
Weight	*non-vacuum models, kg* *vacuum model, kg*	35 42	37 —

As described. Choice of non-vacuum or vacuum models as indicated, all with drying option. Supplied with trays as indicated in table plus carrier and lifter, certificates of compliance and performance test, load recovery failsafe device and instructions.

"Type N" Non-vacuum models

AU135-22 16 litres
AU135-33 22 litres

"Type B" Vacuum model

AU135-71 16 litres

Accessories and spares

Spare instrument trays

AU135-82 Pouch tray 398mm long

Printer

External printer supplied with connection cable and power supply for 230V 50Hz a.c. supplies.

AU135-88 For all AU135-series autoclaves
AU135-91 Spare printer rolls, pack of 10
AU135-92 Spare printer ribbon, supplied singly
AU127-29 TST indicator strips 121°C/15 minutes and 134°C/3.5 minutes. Box 50, 259277



AU135

Swiftlock Automatic Autoclaves

Astell

- A choice of models:
  - — Front or top loading chamber
  - — Automatic or manual filling
- Variable temperature range, 100 to 138°C (0.2 to 2.4bar)
- Fully automatic once filled with water
- Stainless steel vessel
- Manufactured in accordance with PED97/23EC

Construction

Chamber: Grade 316L stainless steel to BS5500 cat. 3, with thermocouple entry port and chamber cleaning drain.

Outer case: Epoxy-coated, zinc-primed, steel panels on corrosion resistant, light alloy internal frame.

Door closure: Patented 'Swiftlock' single action closure mechanism. Only when the door/lid is fully closed will the programmer commence the cycle and a safety locking bolt is automatically engaged.

Controls and fittings: 'Securetouch' programmer and cycle monitor with five pre-set programmes providing ideal sterilisation conditions for typical loads; liquids, instruments, glassware and discard. A large, 145mm, colour touchscreen display allows easy control of processes, continuous readout of programme information, times, temperatures, warnings with audible alarms, pressure, cycle stage, cycle count and a graphical output of the current cycle. A "virtual printer" function stores cycle details for easy down-load to an accessory PC or external printer via an accessory RS232 interface. Additional selectable parameters include timed free steaming, and controlled drying for instrument and glassware cycles (Autofill models only). 'Classic' models additionally feature a media Holdwarm function to maintain culture media in a liquid state after processing. A PIN-protected programme lock enables re-programming of pre-set parameters by authorised personnel. A separate analogue pressure gauge is also provided.

Condensate drainage:

Autofill models feature an automatic water fill/recirculation system with reservoir that provides sufficient water for up to 20 cycles. Condensate and residue chamber water is returned to the reservoir after each cycle for re-use, providing a self-contained system.

Classic models have a removable, integral condensate drain bottle. Alternatively when using liquid or discard cycles waste water can be fed to an external vent rather than the drain bottle, useful where blockage or contamination is anticipated. Note: the autoclave must be refilled after every cycle in this mode.

Safety features:

- — Pressure activated door lock
- — Overheat protection
- — Two thermal cooling locks in compliance with HSE.PM73
- — Audio-visual end of cycle, cycle fault, cycle interruption
- — Sterilisation failure, water low and door unlocked alarms

Capacity	*litres*	43	63	63
Loading type		Front	Front	Top
Chamber dia. x depth	*mm*	350 x 460	350 x 660	350 x 640
Overall	*W, mm*	520	520	530
	D, mm	780	980	700
	H, mm	540	540	1040
Weight	*kg*	95	125	100

As described. With 'Securetouch' 5-programmer/controller, 'Swiftlock' door closure and automatic or manual filling as indicated. Front loading models are supplied with base shelf, the top loading models with two half-depth stainless steel baskets. For 230V 50/60Hz single phase 13A supply.

AU170-17 Swiftlock Autofill, 43 litres, front loading
AU170-23 Swiftlock Autofill, 63 litres, front loading
AU170-42 Swiftlock Autofill, 63 litres, top loading

AU170-56 Swiftlock Classic, 43 litres, front loading
AU170-63 Swiftlock Classic, 63 litres, front loading
AU170-72 Swiftlock Classic, 63 litres, top loading

Options for both models

FACTORY FITTED and MUST BE ORDERED AT THE SAME TIME AS THE AUTOCLAVE.

AU174-05 Load sensed process timing module, with 'wandering probe'
AU174-08 Fan assisted cooling

Accessories

AU176-03 RS232 interface

Shelf racks for front loading chambers

AU177-14 5-position, with 3 shelves for AU170-17 and -56
AU177-18 5-position, with 3 shelves for AU170-23 and -63

Discard containers

AU177-34 For AU170-17 (accepts 2) and AU170-23 (accepts 3)
AU177-39 Half-depth stainless steel basket, for AU170-42 and -72
AU177-44 Half-depth Morrison discard container, for AU170-42 and -72



AU170 top loading models



AU170 front loading models

Swiftlock Automatic Autoclaves continued

Astell

- A choice of front or top loading chamber models
- Variable temperature range 100 to 138°C (0.2 to 2.4bar)
- Grade 316L stainless steel chamber vessel
- 'Swiftlock' single action door closure mechanism
- Manufactured in accordance with PED97/23EC

Capacity		*litres*	90	135	120
Loading type			Top	Front	Top
Chamber diameter x depth		*mm*	456 x 448	450 x 680	456 x 588
Overall	*width*	*mm*	660	660	660
	depth	*mm*	840	840	840
	height	*mm*	940	1150	1070
Weight		*kg*	185	230	200

Controls and fittings: 'Securetouch' programmer and cycle monitor with ten pre-set programmes and memory function providing ideal sterilisation condition, for typical loads; liquids, instruments, glassware and discard. A large, 145mm, colour touchscreen display allows easy control of processes, continuous readout of programme information, times, temperatures, warnings with audible alarms, pressure, cycle stage, cycle count and a graphical output of the current cycle. A "virtual printer" function stores cycle details for easy down-load to an accessory PC or external printer via an accessory ethernet or RS232 interface. Additional selectable parameters include timed freesteaming, holdwarm and delayed start. A PIN-protected programme lock enables re-programming of pre-set parameters by authorised personnel. A separate analogue pressure gauge is also provided.

Condensate drainage: All models have a drain port requiring plumbing into a low level drain able to withstand free flowing steam.

Safety features:

- Pressure activated door lock
- Two thermal cooling locks in compliance with HSE.PM73
- Audio end of cycle alarm
- Over-pressurisation safety valve
- Low water sensor
- Insulated lid cover

As described. With 'Securetouch' 10-programme controller with memory function and 'Swiftlock' door closure. The front loading model is supplied with one base shelf, the top loading models are supplied with baskets (90 litre: 1, 120 litre: 2). For 230V 50/60Hz single phase 30A supplies.

AU180-46 Swiftlock 90 litres, top loading
AU180-59 Swiftlock 135 litres, front loading
AU180-67 Swiftlock 120 litres, top loading

Options

FACTORY FITTED and MUST BE ORDERED AT THE SAME TIME AS THE AUTOCLAVE.

Integral Data Printer. Provides a permanent record of temperature, pressure, cycle date and time and identification

AU183-06 Data Printer
AU183-07 Fan assisted cooling

Accessories

AU176-06 RS232 interface
AU186-17 Morrison discard container, 390 x 355mm diameter x height for AU180-46 and AU180-67
AU186-19 Wire basket stainless steel, 400 x 400mm diameter x height for AU180-46 and AU180-67
AU186-30 2-position shelf kit for AU180-59 only. With 2 shelves and frame

Steriliser, quartz bead - *see SP850-10.*



AU180- top loading



AU180- front loading in use

Autoclave Accessories

Autoclave Deodoriser Capsules, Decon®

Neutralise the pungent odours emitted by many organic residues after autoclaving. Each 1ml capsule is sufficient for an average load in a 200 litre capacity autoclave. Pine scented.

AU600-10 Pack of 100 capsules
AU600-12 Pack of 500 capsules

Autoclave Deodoriser Capsules, Odormycin®

Eliminate offensive odours generated from autoclaving organic waste. Available in a choice of fragrances as indicated. A single capsule is sufficient to deodorise one load. Supplied in packs of 100 capsules.

AU604-15 Apple fragrance
AU604-25 Lemon fragrance

Autoclave Tape

Self adhesive paper with indicating stripes which change colour after being autoclaved. Conforms to European Standard EN867. Dimension stated is tape width. Supplied in rolls of 55 metres.

AU630-10 18mm
AU630-12 24mm
AU630-95 Tape dispenser for 18/24mm wide autoclave tape

Sterilising Pouches, self-seal/transparent

Equally suitable for autoclave or ethylene oxide gas sterilisation. The pouch has a two-ply polyester/ polypropylene laminated transparent front bonded to a medical grade white sterilisation paper. The paper used conforms to BS6256 and the complete pouch meets the requirements of DHSS specification TSS/S/ 330.010. Dual arrows are printed on each pouch; pink changes to brown under normal autoclaving conditions and blue changes to yellow when gas sterilised.

A self-seal adhesive band, which is on the shortest side, is used to seal the pouch. Heat sealing is not required.

	Pouch size mm	*Pack qty*
AU660-17	90 x 203	200
AU660-22	90 x 230	200
AU660-32	130 x 254	200
AU660-37	130 x 360	200
AU660-42	190 x 330	200
AU660-47	300 x 390	200

Biohazard bags suitable for autoclaving – *see Bags section.*

Sterilising Bags, paper

For autoclave sterilising. To BS6257 and using medical grade white sterilisation paper to BS6256. Available with alternative closures:-

Heat seal (AU690 series) – supplied with an adhesive band on the inside of the bag for sealing using a suitable heat seal machine. A pink indicator on each bag changes to brown under normal autoclaving conditions.

Plain closure (AU695 series) – are folded and secured using the accessory indicating autoclave tape.

All bags are gussetted and strongly constructed with a double turn at the bottom for extra safety. The opening is on the shortest side.

W x L mm	*Gusset mm*	*Pack qty*	*Heat seal closure*	*Plain top closure*
90 x 125	50	2000	**AU690-16**	**AU695-16**
125 x 150	25	1000	—	**AU695-25**
125 x 250	50	1000	**AU690-44**	**AU695-44**
140 x 250	75	1000	**AU690-52**	**AU695-52**
140 x 330	50	1000	**AU690-56**	**AU695-56**
180 x 380	95	500	**AU690-64**	**AU695-64**
180 x 530	75	500	—	**AU695-68**
190 x 330	65	500	**AU690-74**	—
250 x 380	100	500	—	**AU695-80**
300 x 610	125	250	—	**AU695-88**

Autoclave tape for securing the plain top closure bags – *see AU630.*

Heat resistant gloves – *see SA704 in the Safety section.*

Sealing film – *see SE162.*



SA704



AU600



AU604



AU630



AU660

AU690, AU695

Autoclave Accessories

Polysteribox
Durable, transparent, industrial plastic boxes suitable for vacuum sterilising of instruments, dressings or clinical sundry products up to 135°C, plasma sterilisation, or gas sterilisation by ethylene oxide or formaldehyde up to 65°C with an extended period of exposure (typically twice the time period for metal containers). A built-in bacteria barrier and PTFE filter allow cleaning in a dishwasher without filter removal. CE-marked according to EU Directive 93/42/EWG.

	Ref.	*Int. dims, mm L x W x D*	*Ext. dims., mm L x W x D*
AU700-10	SH	177 x 76 x 45	208 x 110 x 54
AU700-20	M	155 x 123 x 32	184 x 144 x 59
AU700-30	L	261 x 164 x 65	290 x 183 x 74

Accessories and spares
Replacement filter sets.

AU703-10	For SH model
AU703-20	For M model
AU703-30	For L model

Accessory Sterilisation sealing labels
With writing area for relevant data. Supplied in a pack of 1000.

AU706-95	For SH, M and L models



AU700-10 in use

Bags

Disposal Bags

All dimensions are nominal.

Sterilin
Non-sterile.

	Ref.	Size mm	Pack
Polyethylene. Can withstand up to 121°C.			
BA030-10	509	305 x 660	200
BA030-17	510	305 x 660	500
BA030-20	509L	406 x 610	200
BA030-27	510L	406 x 610	500
BA030-30	511	610 x 810	200
Polypropylene. Can withstand up to 135°C.			
BA030-40	509HT	307 x 660	200
BA030-44	510HT	307 x 660	500
BA030-50	509LHT	406 x 610	200
BA030-54	510LHT	406 x 610	500
BA030-60	511HT	610 x 810	200
BA030-64	511HTC	610 x 810	200*

*With indicator strip to show when sterilisation is achieved.

Holders For Sterilin bags

Wire type

BA032-06 For 509/510 bags
BA032-08 For 511 bags

Box type

Cardboard. Self assembly. Supplied in pack of 10.

BA032-15 For 511 bags

Autoclave Bags
High temperature. Polypropylene. Non-sterile. Can be autoclaved at 135°C. Printed with biohazard symbol.

	Type	Size mm	Pack
BA040-10	Small	300 x 600	200
BA040-20	Medium	406 x 625	200
BA040-30	Large	635 x 840	200

Elkay
Polyethylene. Non-sterile. Can be autoclaved at 121°C. Printed with biohazard symbol.

	Ref.	Size mm	Pack
BA045-20	1826	460 x 660	100
BA045-30	2430	610 x 760	100

Azlon, high temperature
Polypropylene. For safe disposal of hazardous laboratory waste. Printed in blue with safety instructions and biohazard warning symbol. Can be autoclaved up to 135°C. Supplied in packs of 100.

	Ref.	Size mm
BA090-22	BWY250	302 x 660
BA090-27	BWY252	433 x 632
BA090-32	BWY254	608 x 866

All dimensions are nominal.

Sample Bags

Sample, plain
Polyethylene, lightweight. Supplied in packs of approximately 100.

	Size mm
BA055-20	100 x 150
BA055-34	150 x 200
BA055-47	200 x 350
BA055-52	250 x 375

Bag Ties
Plastic covered wire 150mm long for closing bags. Supplied in packs of 1000.

BA095-15 Bag ties

Sample, reseal
Polyethylene. With rim-channel closure, which can be opened and resealed repeatedly. Supplied in bags of 100.

Size mm	Plain	Writing Panel
70 x 100	—	BA102-16
80 x 120	BA100-19	—
100 x 150	BA100-33	BA102-33
120 x 170	BA100-39	BA102-39
200 x 300	BA100-51	BA102-51
300 x 400	BA100-56	—

Heat Sealer for polyethylene film – *see TS400 in the Tools Section.*


BA030 with BA032-08 in use



BA030 with BA032-15



BA045



BA090 in use, BA040 are similar


BA055 with BA095


BA100 in use



BA102 in use

Sample Bags

Nasco **WHIRL-PAK**®

Polyethylene with tab and wire frame at top which allows bag to be opened wide. The bag is sealed by pulling the tabs and whirling the bag around the wire. Can be opened and closed as required. Ethylene oxide gas sterilised. Suitable for solids and liquids. Available with or without writing panel. Supplied in packs as indicated.

D x W, mm	*Capacity, ml*	*Plain*	*Writing Panel*	*Plain, Self-standing*	*Pack qty.*
125 x 65	29	—	***BA105-11***	—	500
125 x 75	58	***BA104-13***	***BA105-13***	—	500
185 x 75	118	***BA104-15***	***BA105-15***	***BA107-15***	500
185 x 75	118	—	***BA106-15****	—	500
180 x 95	207	***BA104-16***	***BA105-16***	—	500
230 x 115	532	***BA104-17***	***BA105-17***	***BA107-17***	500
230 x 150	710	***BA104-19***	***BA105-19***	***BA107-19***	500
230 x 150	710	***BA104-21****	—	—	500
305 x 125	798	***BA104-23***	—	—	500
380 x 125	1065	***BA104-25***	—	***BA107-25***†	500
380 x 150	1242	***BA104-27***	—	***BA107-27***†	500
380 x 190	2041	—	—	***BA107-29***	250
380 x 254	2721	—	***BA105-31***	—	250
508 x 254	3637	—	***BA105-33***	—	250

*With flat wire band.
**With separate external pocket for holding sample paperwork.
†Supplied in a pack of 250.

Additional Whirl-Pak® bags:

Hygiene sampling bags - *see HT845-/HT850-series.*

Blender bags - *see MS865-series.*

Water sample test bags - *see WR290-series.*

Whirl-Pak® Wire racks, Nasco

For convenient storage or transportation of samples within Whirl-Pak® bags. Dimensions shown are number of apertures x dimensions and to hold bags with capacities as indicated.

BA110-10 21 x (40 x 50mm), up to 207ml bags
BA110-20 18 x (50 x 50mm), up to 207ml bags
BA110-30 20 x (64 x 64mm), 532-1065ml bags
BA110-40 6 x (114 x 114mm), 710-2041ml bags
BA110-60 Carrying handle for BA110-racks

Whirl-Pak® Scoop bags, Nasco

Comprises 532ml Whirl-Pak® bag, 230 x 115mm, containing a sterile, polystyrene, 60ml scoop. Supplied in a pack of 50.

BA115-10 Scoop bags

Biohazard Specimen bags, Nasco

Whirl-Pak® Trans-Pak® clinical specimen transport bags, non-sterile. Bag dimensions 230 x 150mm. With external pouch 146 x 137mm and biohazard label. Accessory security tape is made of destructible material which cannot be removed in one piece and immediately tears if removal is attempted, indicating any tampering. Supplied in packs as indicated.

BA118-15 Biohazard specimen bags, pk.500
BA118-17 Security tape strips, pk.100

Soil Sample bags, Nasco

Used in sample submission for analytical assessment. Bleached paper with polyethylene liner and heat sealed base so that no sample sifting occurs. Capacity 769ml. With attached, folding tin strap tie. Supplied in a pack of 500.

BA120-25 Soil sample bags







BA105 in use, BA104 are similar



BA107-27 in use



BA110-40 in use with BA110-60



BA115-10



BA118-15



BA118-17



BA120-25 in use

Balances

Spring

Spring, flat form
With large easy to read 77mm scale, zero adjuster, overload protection and hook. In metal case with plastic end pieces and suspension ring.

BA300-25 1000g x 10g
BA302-25 10N x 0.1N

Spring, tubular form
With long easy to read 120mm scale, protected when not in use, low friction movement, zero adjuster, overload protection and hook. In tough glass-filled nylon case. With suspension hook.

BA305-25 1kg x 5g
BA305-30 2kg x 10g
BA305-35 5kg x 25g
BA305-40 10kg x 50g
BA307-35 50N x 0.5N

Spring, dial, extension
With 156mm diameter dial. Case is robust ABS plastic with polycarbonate dial cover. Zero adjustment is provided. With suspension hook.

BA315-40 25kg x 100g
BA315-55 50kg x 200g
BA315-65 100kg x 500g

Spring, dial, compression
With 110mm diameter dial, flat pan 135 x 95mm L x W and zero adjustment. Overall 135 x 95 x 160mm L x W x H. Weight 0.24kg.

BA319-25 1kg x 10g

Heavy Duty, General Purpose

Weighing scales, heavy duty
Sliding weight. Bench mounting with flat steel platform 430 x 380mm. Overall 585 x 510 x 530mm W x D x H. Weight 18kg.

BA510-45 25kg x 5g
BA510-50 55kg x 20g
BA510-60 160kg x 50g

Weighing scales, digital
Digital reading. With touch key controls including ON/OFF/MODE to select weighing in kg or lb and ZERO to tare the container. The digital display will indicate over or under weight. Supplied with flat pan 230 x 165mm (except 30kg model pan which is 270 x 220mm). Battery operated and supplied with long life rechargeable battery and charging adapter. A 220-240V 50Hz single phase supply is required for the charging adapter. Overall 200 x 220 x 190mm W x D x H. Weight 3kg.

	Capacity	*Sub divisions*
BA512-10	3kg/6lb	1g/0.002lb
BA512-14	6kg/13lb	2g/0.005lb
BA512-16	10kg/22lb	10g/1oz
BA512-18	20kg/44lb	20g/0.05lb
BA512-20	30kg/66lb	20g/0.05lb
BA512-42	1.1kg	0.1g
BA512-46	11kg	1g

Accessory for BA512 scales
Pan, stainless steel, approximately 410 x 280 x 40mm deep. Capacity approximately 2500ml.

BA512-52 Pan

Weighing scales, digital, washdown
EC Type-approved (2nd stage verification available at extra cost) except SK5001WP. With washable stainless steel body and pan, 232 x 192mm W x D, dust and waterproof to IP65, and large 25mm high LCD readout with net weight and stability indicators. Battery operated using 6 x 1.5V 'D' batteries (not supplied). Overall 226 x 280 x 156mm W x D x H. Weight 2.9kg.

	Model SK-	*Cap. kg*	*Read-ability, g*
BA514-30	1000WP-EC	1	0.5
BA514-40	2000WP-EC	2	1
BA514-50	5000WP-EC	5	2
BA514-60	5001WP	5	1
BA514-70	10KWP-EC	10	5
BA514-80	20KWP-EC	20	10

BL610-20 1.5V battery (6 required)

Weighing scales, mechanical
With large, easily read dial and dual scale 10kg/22lb x 50g/2oz. Robust all-steel construction, available with either a 220mm square flat platter or 406 x 280mm dished pan, both in stainless steel.

BA515-25 Flat platter
BA515-35 Dished pan

Heavy duty electronic balances – *see BB865-series.*

Torsion Balances for measuring the surface tension and interfacial tension of liquids up to 0.12 newtons/metre – *see Surface Tension section.*



BA300


BA305


BA319-25



BA512-14 with BA512-52 in use


BA514



BA315


BA510-45



BA512-14 in use


BA515-25

Mechanical Beam Single Pan Models

OHAUS®

Sliding mass

With single suspended pan, diameter 90mm, height of stirrup 175mm. The beam movement is magnetically damped and zero adjustment is provided. A platform recessed in the case can be positioned for specific gravity measurements. No additional masses are required.

Readability 0.01g. BB100-10 has 4 beams. BB100-50 has 2-beams plus vernier dial reading 10g x 0.01g.

BB100-10 Cent-O-Gram 311. Capacity 311g
BB100-50 Dial-O-Gram 310. Capacity 310g

Accessories

BB102-06 Dust cover 110, vinyl

Model 1119-DO

Capacity 20kg. Sensitivity 1g with top loading stainless steel pan 280mm diameter, magnetic damping, graduated beam with sliding poise, 2270g tare and auxiliary weights. A very robust balance for heavy duty laboratory and industrial weighing. Overall dimensions 800 x 250 x 250mm. Weight 20kg.

BB200-10 1119-DO

Triple Beam Series 700

Top loading, with magnetically damped beams and zero adjustment. Weighing range 610g. Balance range can be extended to 2610g using accessory weight set BB150-10. Readability on all models is 0.1g. Tare where specified is 225g.

	Model	*Capacity*	*Tare*	*Pan*
BB120-10	750-50	2610g	No	Flat stainless steel 150mm diameter
BB120-30	760-00	2610g	Yes	
BB125-10	710-00	2610g	No	Stainless steel removable pan 150 x 20mm deep

Dial-O-Gram Model 1650-00

Top loading, with magnetically damped beams and zero adjustment. Weighing range 610g. Weighing range can be extended to 2610g using accessory weight set BB150-10. Readability is 0.1g.

	Model	*Capacity*	*Pan*
BB145-12	1650-00	2610g	Stainless steel plate 150mm dia.

Accessories

BB150-10 Weight set, 2 x 1000g and 1 x 500g, to extend weighing range to 2610g
BA714-06 Rod and clamp assembly for specific gravity measurements

Accessory Scoop

	Material	*Ref.*	*Approx. capacity*	*Counterweight*
BB155-25	Polypropylene	1101-20	800ml	No



BB100-50 ***BB100-10***



BB145 with weight set BB150-10



BB120



BB200

Mechanical Beam Single Pan Models

OHAUS®

Triple Beam Series Junior and Pro

- Choice of models
  - — Junior: Notched and tiered beams for easy reading, magnetic damping and zero adjustment compensator
  - — Pro: Additionally to the features of the Junior model, has positive poise positioning, weight set with integrated storage within the balance and rod and clamp for under-balance weighing
- Plastic construction with stainless steel plate
- Readability 0.1g
- 2610g capacity models supplied with weight set

As described. Top loading with magnetically damped beams and zero adjustment.

	Model	*Capacity*	*Tare*	*Pans*
BB110-15	Junior TJ611	610g	No	Flat, 150mm dia.
BB110-25	Junior TJ2611	2610g	No	Flat, 150mm dia.
BB110-45	Pro TP2611	2610g	No	Flat, 147 x 147mm

Mechanical Beam Double Pan Models

OHAUS®

Double Beam Harvard Junior

- Ergonomic, carrying handle
- Plastic construction with metal beam
- Stackable
- Includes 8-piece weight set
- Readability 0.5g

As described. Top loading with manually damped beam and two 150mm diameter, plastic pans. Supplied with 8-piece weight set.

	Model	*Capacity*	*Tare*	*Pans*
BB225-10	Junior HJ2001	200g	No	Flat, 150mm dia.

Harvard Trip Series 1400/1500

Top loading, with magnetically damped beams and two 150mm diameter, stainless steel plate pans. Model 1450 has a single beam. Other models have two beams.

Accessory weights are necessary for weighing above the weighing range specified. Tare where specified is 225g. Readability is 0.1g.

	Model	*Weighing range*	*Capacity*	*Tare*
BB250-10	1450-SD	10g	2000g	No
BB250-30	1550-SD	210g	2000g	No
BB250-50	1560-SD	210g	2000g	Yes

Scoop for 1400 and 1500 series balances

	Material	*Ref.*	*Approx. capacity and dimensions*	*Counter-weight*
BB155-25	Polypropylene	1101-20	800ml (300 x 150 x 70mm)	No



BB110-15



BB225-10



BB110-45



BB250

Balance Selector

A&D

METTLER TOLEDO

OHAUS®

sartorius



Cap. g	Make	Model	Cat. No
Readability 0.001/0.002/0.005mg			
0.5/1/2	Sartorius	CPA2P	**BD160-02**
Readability 0.002/0.01mg			
5/21	Sartorius	CPA26P	**BD160-05**
Readability 0.01/0.01/0.1mg			
40/100/200	Sartorius	CPA225D	**BD160-08**
Readability 0.01mg			
120	Mettler	MS105	**BC036-05**
Readability 0.01/0.1mg			
42/120	Mettler	MS105DU	**BC036-10**
42/210	A & D	GR-202	**BD235-25**
81/210	Ohaus	DV215CD	**BB590-40**
82/220	Mettler	MS205DU	**BC036-22**
Readability 0.1mg			
64	Sartorius	CPA64	**BD160-11**
65	Ohaus	PA64	**BB577-05**
65	Ohaus	PA64C	**BB577-41**
102	A & D	HR-100A	**BD225-40**
102	A & D	HR-100AZ	**BD225-60**
110	Ohaus	AV114	**BB582-04**
110	Ohaus	AV114C	**BB582-52**
110	Ohaus	DV114C	**BB590-10**
110	Ohaus	PA114	**BB577-09**
110	Ohaus	PA114C	**BB577-45**
120	A & D	GR-120	**BD235-10**
120	Ohaus	EX124	**BB610-12**
120	Mettler	MS104S	**BC036-20**
120	Sartorius	CPA124S	**BD160-16**
152	A & D	HR-150A	**BD225-45**
152	A & D	HR-150AZ	**BD225-65**
210	A & D	GR-200	**BD235-20**
210	Ohaus	DV214C	**BB590-20**
210	Ohaus	PA214	**BB577-13**
Readability 0.1mg continued			
210	Ohaus	PA214C	**BB577-49**
220	Ohaus	EX224	**BB610-22**
220	Mettler	MS204S	**BC036-25**
220	Sartorius	CPA224S	**BD160-21**
252	A & D	HR-250A	**BD225-50**
252	A & D	HR-250AZ	**BD225-70**
260	Ohaus	AV264	**BB582-08**
260	Ohaus	AV264C	**BB582-56**
310	A & D	GR-300	**BD235-30**
310	Ohaus	DV314C	**BB590-30**
320	Ohaus	EX324	**BB610-32**
320	Sartorius	CPA324S	**BD160-26**
330	Mettler	MS304S	**BC036-30**
1100	A & D	GF-1000	**BD265-31**
1100	A & D	GX-1000	**BD260-40**
1200	Mettler	MS1003S	**BC046-26**
Readability 0.001g			
122	A & D	FX-120i	**BD207-15**
210	A & D	GF-200	**BD265-15**
210	A & D	GX-200	**BD260-10**
210	Ohaus	PA213	**BB577-17**
210	Ohaus	PA213C	**BB577-53**
220	Ohaus	EX223	**BB625-12**
220	Sartorius	CPA223S	**BD164-09**
310	A & D	GF-300	**BD265-25**
310	Ohaus	AV313	**BB582-16**
310	Ohaus	AV313C	**BB582-64**
320	A & D	FX-300i	**BD207-30**
320	Mettler	MS303SE	**BC046-10**
320	Mettler	MS303S	**BC046-14**
320	Sartorius	CPA323S	**BD164-13**
410	A & D	GX-400	**BD260-20**
410	Ohaus	AV413	**BB582-20**
410	Ohaus	AV413C	**BB582-68**
410	Ohaus	PA413	**BB577-21**
410	Ohaus	PA413C	**BB577-57**
420	Ohaus	EX423	**BB625-17**
420	Mettler	MS403S	**BC046-18**
420	Sartorius	CPA423S	**BD164-21**
610	A & D	GF-600	**BD265-29**
610	A & D	GX-600	**BD260-30**
620	Ohaus	EX623	**BB625-27**
620	Mettler	MS603S	**BC046-22**
620	Sartorius	CPA623S	**BD164-24**
1000	Sartorius	CPA1003S	**BD164-27**
1100	Ohaus	EX1103	**BB625-29**
Readability 0.001/0.01g			
500/1000	Sartorius	CPA1003P	**BD164-23**
Readability 0.01g			
100	A & D	HL-100	**BD185-10**
150	Ohaus	TA152	**BB525-10**
200	A & D	EK-200i	**BD200-15**
200	Ohaus	SPU202	**BB540-65**
210	Ohaus	AV212	**BB582-12**
210	Ohaus	AV212C	**BB582-60**
Readability 0.01g continued			
300	A & D	EK-300i	**BD200-17**
300	Ohaus	TA302	**BB525-15**
400	A & D	EK-410i	**BD200-21**
400	Ohaus	SPU402	**BB540-69**
410	Ohaus	AV412	**BB582-24**
410	Ohaus	AV412C	**BB582-72**
510	Ohaus	PA512	**BB577-25**
510	Ohaus	PA512C	**BB577-61**
810	Ohaus	AV812	**BB582-28**
810	Ohaus	AV812C	**BB582-76**
1220	A & D	FX-1200i	**BD207-45**
1210	A & D	GF-1200	**BD265-35**
1620	Mettler	MS1602SE	**BC049-15**
1620	Mettler	MS1602S	**BC049-20**
2100	A & D	GF-2000	**BD265-45**
2100	A & D	GX-2000	**BD260-55**
2100	Ohaus	PA2102	**BB577-29**
2100	Ohaus	PA2102C	**BB577-65**
2200	Sartorius	CPA2202S	**BD164-32**
3100	A & D	GF-3000	**BD265-55**
3100	Ohaus	AV3102	**BB582-36**
3100	Ohaus	AV3102C	**BB582-84**
3200	A & D	FX-3000i	**BD207-60**
3200	Sartorius	CPA3202S	**BD164-36**
3200	Mettler	MS3002SE	**BC049-25**
3200	Mettler	MS3002S	**BC049-30**
4100	A & D	GX-4000	**BD260-65**
4100	Ohaus	AV4102	**BB582-40**
4100	Ohaus	AV4102C	**BB582-88**
4100	Ohaus	PA4102	**BB577-33**
4100	Ohaus	PA4102C	**BB577-69**
4200	Ohaus	EX4202	**BB625-42**
4200	Mettler	MS4002S	**BC049-35**
4200	Sartorius	CPA4202S	**BD164-41**
6100	A & D	GX-6000	**BD260-75**
6200	Ohaus	EX6202	**BB625-65**
6200	Mettler	MS6002S	**BC049-45**
6200	Sartorius	CPA6202S	**BD164-48**



Balance Selector

Cap. g	Make	Model	Cat. No
Readability 0.01/0.1g			
820/4200	Mettler	MS4002SDR	***BC049-40***
1220/6200	Mettler	MS6002SDR	***BC049-50***
Readability 0.01/0.02/0.05g			
1500/3000/6200	Sartorius	CPA6202P	***BD164-57***
Readability 0.1g			
200	A & D	HL-200i	***BD180-10***
200	Ohaus	CS200	***BB550-66***
200	Ohaus	CS200E	***BB550-80***
300	Ohaus	TA301	***BB525-20***
400	A & D	HL-400	***BD185-25***
400	Ohaus	SPU401	***BB540-73***
500	Ohaus	TA501	***BB525-25***
600	Ohaus	SPU601	***BB540-77***
1200	A & D	EK-1200i	***BD200-24***
1500	Ohaus	TA1501	***BB525-30***
2000	A & D	EK-2000i	***BD200-27***
2000	Ohaus	SPU2001	***BB540-85***
2100	Ohaus	AV2101	***BB582-32***
2100	Ohaus	AV2101C	***BB582-80***
3000	A & D	EK-3000i	***BD200-29***
3000	Ohaus	TA3001	***BB525-35***
4000	A & D	EK-4100i	***BD200-30***
4000	Ohaus	SPU4001	***BB540-88***
4100	Ohaus	AV4101	***BB582-44***
4100	Ohaus	AV4101C	***BB582-92***
4100	Ohaus	PA4101	***BB577-37***
4100	Ohaus	PA4101C	***BB577-73***
5200	Sartorius	CPA5201	***BD164-52***
6100	A & D	GF-6000	***BD265-65***
6100	A & D	GX-6000	***BD260-80***
8100	A & D	GX-8000	***BD260-85***
8100	Ohaus	AV8101	***BB582-48***
8100	Ohaus	AV8101C	***BB582-96***
6200	Mettler	MS6001S	***BC049-55***
8200	Mettler	MS8001SE	***BC049-65***
8200	Mettler	MS8001S	***BC049-80***



Cap. g	Make	Model	Cat. No
Readability 0.1g continued			
8200	Sartorius	CPA8201	***BD164-61***
10000	Sartorius	CPA10001	***BD164-66***
10200	Ohaus	EX10201	***BB626-27***
12000	Ohaus	EP12001	***BB623-27***
12000	Ohaus	EP12001C	***BB629-27***
12000	Sartorius	CPA12001S	***BD164-73***
12200	Mettler	MS12001L	***BC074-10***
16200	Mettler	MS16001LE	***BC074-14***
16200	Mettler	MS16001L	***BC074-18***
16000	Sartorius	CPA16001S	***BD164-77***
22000	Ohaus	EP22001	***BB623-37***
22000	Ohaus	EP22001C	***BB629-37***
32000	Ohaus	EP32001	***BB623-47***
32000	Ohaus	EP32001C	***BB629-47***
32200	Mettler	MS32001LE	***BC074-25***
32200	Mettler	MS32001L	***BC074-30***
34000	Sartorius	CPA34001S	***BD164-81***
Readability 0.1/0.2/0.5g			
8000/16000/34000	Sartorius	CPA34001P	***BD164-85***
Readability 0.5g			
1000	A & D	SJ-1000HS	***BD187-20***
Readability 1g			
2000	Ohaus	CS2000	***BB550-72***
2000	Ohaus	CS2000E	***BB550-85***
2000	A & D	HL-2000i	***BD180-25***
2000	A & D	SJ-2000HS	***BD187-40***
4000	A & D	HL-4000	***BD185-45***
5000	A & D	SJ-5501-HS	***BD187-55***
5000	Ohaus	CS5000	***BB550-77***
5000	Ohaus	CS5000E	***BB550-90***
5000	Ohaus	TA5000	***BB525-40***
6000	A & D	EK-6000i	***BD200-32***
6000	Ohaus	SPU6000	***BB540-93***
12000	A & D	EK-12Ki	***BD200-36***
32200	Mettler	MS32000LE	***BC074-35***
32200	Mettler	MS32000L	***BC074-40***
32000	Sartorius	CPA34000	***BD164-89***



Cap. g	Make	Model	Cat. No
Readability 2g			
5000	A & D	SJ-5000HS	***BD187-60***
6000	Ohaus	ES6R	***BB560-17***
Readability 5g			
12000	A & D	SJ-12KHS	***BD187-80***
30000	Ohaus	D31 P30BR	***BB865-10***
Readability 10g			
30000	Ohaus	ES30R	***BB560-22***
60000	Ohaus	D31 P60BL	***BB865-30***
60000	Ohaus	D31 P60BR	***BB865-20***
Readability 20g			
50000	Ohaus	ES50L	***BB560-38***
50000	Ohaus	ES50R	***BB560-28***
150000	Ohaus	D31 P150BL	***BB865-40***
Readability 50g			
100000	Ohaus	ES100L	***BB560-47***
Readability 100g			
200000	Ohaus	ES200L	***BB560-57***

Portable Electronic Balances Traveller™ TA Series

OHAUS®

- Battery or mains operation
- Capacities up to 5kg maximum
- Clear plastic, hinged protective cover for the weighing pan and cell allows stacking, with removable centre piece for draught-free weighing
- Full range tare
- Weigh-below facility
- Two selectable units: g or N
- Choice of accessory USB or RS232 interfaces
- Integral transportation lock and calibration lockout
- Auto shut-off prolongs battery life
- Digital calibration from the keypad
- Impact resistant plastic case and draught shield with stainless steel pan

As described. Supplied with weigh-below hook and a.c. mains adapter (Models up to 300g are also supplied with calibration weight). Without batteries (4 x 1.5V AA required). Overall 149 x 224 x 73mm W x D x H. Weight 0.75kg. A 240V 50/60Hz a.c. single phase supply is required for the adapter.

	Model	*Capacity g*	*Readability g*	*Pan size mm*
BB525-10	TA152	150	0.01	120 diameter
BB525-15	TA302	300	0.01	120 diameter
BB525-20	TA301	300	0.1	120 diameter
BB525-25	TA501	500	0.1	120 diameter
BB525-30	TA1501	1500	0.1	120 x 135
BB525-35	TA3001	3000	0.1	120 x 135
BB525-40	TA5000	5000	1.0	120 x 135

Accessories

BL610-15 Battery 1.5V, AA (4 required)
BB527-05 USB interface with cable
BB527-09 RS232 interface with cable
BB527-12 Printer cable adapter for connecting BD527-09 to BD528-12

Impact printer, SRP275

With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12 Printer SRP275
BD166-48 Paper rolls for BB528-12, pack of 5
BB528-26 Ink ribbon cassette for BB528-12, pack of 1
BD722-26 Calibration weight, OIML class M2, 500g
BD722-28 Calibration weight, OIML class M2, 1kg
BD722-30 Calibration weight, OIML class M2, 2kg



BB525

Portable Electronic Balances Scout™ Pro Series

OHAUS®

- Battery or mains operation
- Capacities up to 6kg maximum
- Full range tare
- Weigh-below facility
- User selectable units g, kg, lb, oz, ozt, lb:oz, ozt and dwt
- High contrast LCD display and two-key operation for ease of use
- Application modes: parts counting, % weighing, totalisation, display hold
- Choice of accessory USB or RS232 interfaces
- Lockswitch permanently maintains set configuration
- Auto shut-off prolongs battery life
- Digital calibration from the keypad
- Impact resistant plastic case with stainless steel pan

As described. Supplied with weigh-below hook and a.c. mains adapter (Models up to 600g are also supplied with calibration weight). Without batteries (4 x 1.5V AA required). Overall 192 x 210 x 54mm W x D x H. Weight 0.8kg. A 240V 50/60Hz a.c. single phase supply is required for the adapter.

	Model	*Capacity g*	*Readability g*	*Pan size mm*
BB540-65	SPU202	200	0.01	120 diameter
BB540-69	SPU402	400	0.01	120 diameter
BB540-73	SPU401	400	0.1	120 diameter
BB540-77	SPU601	600	0.1	165 x 142
BB540-85	SPU2001	2000	0.1	165 x 142
BB540-88	SPU4001	4000	0.1	165 x 142
BB540-93	SPU6000	6000	1.0	165 x 142

Accessories

BL610-15 Battery 1.5V, AA (4 required)
BB527-05 USB interface with cable
BB527-09 RS232 interface with cable
BB527-12 Printer cable adapter for connecting BB527-09 to BB528-12

Impact printer, SRP275

With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12 Printer SRP275
BD166-48 Paper rolls for BB528-12, pack of 5
BB528-26 Ink ribbon cassette for BB528-12, pack of 1
BD722-28 Calibration weight, OIML class M2, 1kg for BB540-85
BD722-30 Calibration weight, OIML class M2, 2kg for BB540-88 and BB540-93
BB542-10 Spare mains adapter. For 240V 50/60Hz a.c. single phase supplies



BB540

Portable Electronic Balances CS/CS-E Series

OHAUS®

- Mains or battery operation
- Choice of models:
  - — CS: with removable stainless steel pan, batteries and a.c. adapter
  - — CS-E with plastic pan and batteries only (accessory mains adapter available)
- Easy to read, 11mm high, LCD readout
- Choice of g or oz weighing modes
- Full subtractive tare

Overall 193 x 135 x 39mm W x D x H. Weight 0.55kg (CS-), 0.47kg (CS-E). With oval pan 146 x 133mm L x W and 3 x 1.5V AA batteries with auto shut-off after 5 minutes without use. CS- models are additionally supplied with a mains adapter for 240V 50/60Hz a.c. single phase supplies.

	Model	*Capacity g*	*Readability g*
BB550-66	CS200	200	0.1
BB550-72	CS2000	2000	1.0
BB550-77	CS5000	5000	1.0
BB550-80	CS200E	200	0.1
BB550-85	CS2000E	2000	1.0
BB550-90	CS5000E	5000	1.0

Accessories and spares

BB542-10 Mains adapter. For 240V 50/60Hz a.c. single phase supplies
BB552-26 Container, plastic, capacity approx. 1050ml
BB552-28 Pan cover, stainless steel
BL610-15 Spare battery 1.5V, AA (3 required)

Calibration weights to OIML class M2.

BD722-22 100g for BB550-66/-80
BD722-28 1kg for BB550-72/-85
BD722-30 2kg for BB550-77/-90



BB550-66/BB550-77



BB550-80/BB550-90

Heavy Duty Electronic Balances ES Series

OHAUS®

- Low-profile, heavy duty, rugged balances for weighing up to 200kg
- User selectable units kg, lb, oz (and lb:oz, models up to 100kg)
- Easy to read 20mm high LCD
- 3-way mounting bracket allows the indicator to be mounted on or above the platform base, or on a wall
- Two button operation
- Mains or battery operation
- Battery saver facility switches off balance after 5 minutes of inactivity

Supplied with indicator mounting bracket, stainless steel platform and a.c. mains adapter. Without batteries (6 x 1.5V AA required). A 240V 50/60Hz a.c. single phase supply is required for the adapter.

	Model	*Capacity kg*	*Readability g*	*Platform size, mm*
BB560-17	ES6R-GB1	6	2	310 x 270
BB560-22	ES30R-GB1	30	10	310 x 270
BB560-28	ES50R-GB1	50	20	310 x 270
BB560-38	ES50L-GB1	50	20	520 x 400
BB560-47	ES100L-GB1	100	50	520 x 400
BB560-57	ES200L-GB1	200	100	520 x 400

Accessories

BL610-15 Battery 1.5V, AA (6 required)



BB560-17/BB560-28



BB560-38/BB560-57

Electronic Balances, Adventurer™ Pro Series

OHAUS®

Advanced, general purpose balances with user-focussed features for laboratory, industrial and educational use.

- Two-line, high-contrast, backlit display of weight and application information using Smartext™ software
- Four-button operation with user prompts and rapid switching between modes/units
- User selectable units g, kg, mg, ct. N, lb, oz, ozt, dwt, gn, mo, mi, ti, tl, Ba, tla and custom
- Application modes include: dynamic weighing, parts counting, percentage weighing, checkweighing, totalisation and display hold (for situations where the display might be momentarily obscured)
- Full range automatic tare function
- RS232 port with GLP/GMP data output facility: date/time, balance I.D., user/project I.D. and results
- 0.1/1mg readability models incorporate a "frameless" draught shield with flip-top and sliding side doors
- Choice of built-in internal, or external accessory weight, calibration models
- Quadrastance™ design with four adjustable feet and front levelling bubble
- Weigh-below hook for density/specific gravity determination

As described. With four-button operation, bidirectional RS232 interface, weight-below facility, stability and error indicators and a.c. adapter for 230V 50Hz single phase supplies.

With external calibration

BB582-04	AV114, Analytical
BB582-08	AV264, Analytical
BB582-12	AV212, Precision
BB582-16	AV313, Precision
BB582-20	AV413, Precision
BB582-24	AV412, Precision
BB582-28	AV812, Precision
BB582-32	AV2101, Precision
BB582-36	AV3102, Precision
BB582-40	AV4102, Precision
BB582-44	AV4101, Precision
BB582-48	AV8101, Precision

With internal calibration

BB582-52	AV114C, Analytical
BB582-56	AV264C, Analytical
BB582-60	AV212C, Precision
BB582-64	AV313C, Precision
BB582-68	AV413C, Precision
BB582-72	AV412C, Precision
BB582-76	AV812C, Precision
BB582-80	AV2101C, Precision
BB582-84	AV3102C, Precision
BB582-88	AV4102C, Precision
BB582-92	AV4101C, Precision
BB582-96	AV8101C, Precision

EC Type Approved versions, secondary interface models (USB, RS232 or ethernet) and alternative capacity or readability models are available - *details on request.*

Accessories

BL610-15	Battery 1.5V, AA (4 required)

Impact printer, SRP275

With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12	Printer SRP275
BD166-48	Paper rolls for BB528-12, pack of 5
BB528-26	Ink ribbon for BB528-12, pack of 1
BB605-97	Printer cable adapter for connecting BB582 balances to BB528-12 printer

Calibration weights - *see BD912 series.*

see next page for specification tables

BB528-12





BB582-08 in use

BB582-12

Electronic Balances, Adventurer™ Pro Series continued

OHAUS®

With external calibration*.

Model			AV114	AV264	AV212	AV313	AV413	AV412
Capacity		*g*	110	260	210	310	410	410
Readability		*g*	0.0001	0.0001	0.01	0.001	0.001	0.01
Pan size, diameter		*mm*	90 dia.	90 dia.	120 dia.	120 dia.	120 dia.	149 x 162
Overall,	*W*	*mm*	220	220	193	220	220	193
	H	*mm*	305	305	72	190	190	72
	D	*mm*	300	300	254	300	300	254
Net weight		*kg*	4	4	1.2	3.3	3.3	1.5
Power		*a.c. adapter*	✓	✓	✓	✓	✓	✓
	4 x 1.5V AA batteries†		—	—	✓	—	—	✓

*Weight not supplied. †Batteries not supplied.

Model			AV812	AV2101	AV3102	AV4102	AV4101	AV8101
Capacity		*g*	810	2100	3100	4100	4100	8100
Readability		*g*	0.01	0.1	0.01	0.01	0.1	0.1
Pan size		*mm*	149 x 162	149 x 162	168 x 180	168 x 180	149 x 162	149 x 162
Overall,	*W*	*mm*	193	193	220	390	276	276
	H	*mm*	72	72	85	330	160	160
	D	*mm*	254	254	300	500	385	385
Net weight		*kg*	1.5	1.6	2.8	2.8	1.6	1.6
Power		*a.c. adapter*	✓	✓	✓	✓	✓	✓
	4 x 1.5V AA batteries†		✓	✓	—	—	✓	✓

*Weight not supplied. †Batteries not supplied.

With internal calibration.

Model			AV114C	AV264C	AV212C	AV313C	AV413C	AV412C
Capacity		*g*	110	260	210	310	410	410
Readability		*g*	0.0001	0.0001	0.01	0.001	0.001	0.01
Pan size, diameter		*mm*	90 dia.	90 dia.	120 dia.	120 dia.	120 dia.	168 x 180
Overall,	*W*	*mm*	220	220	390	390	390	390
	H	*mm*	305	305	330	410	410	330
	D	*mm*	300	300	500	500	500	500
Net weight		*kg*	4	4	2.6	3.7	3.7	3.4
Power			a.c. adapter only — all models					

Model			AV812C	AV2101C	AV3102C	AV4102C	AV4101C	AV8101C
Capacity		*g*	810	2100	3100	4100	4100	8100
Readability		*g*	0.01	0.1	0.01	0.01	0.1	0.1
Pan size		*mm*	168 x 180	168 x 180	168 x 180	168 x 180	168 x 160	168 x 160
Overall,	*W*	*mm*	390	390	390	390	390	390
	H	*mm*	330	330	330	330	330	330
	D	*mm*	500	500	500	500	500	500
Net weight		*kg*	3.4	3.5	3.2	3.2	3.5	3.5
Power			a.c. adapter only — all models					



Electronic Balances, Semi-Micro Analytical, Discovery Series

OHAUS®

- Twin-line, backlit, alphanumeric LCD readout with menu text prompts for easy operation
- Application modes:
  - — Parts counting
  - — Percentage weighing
  - — Check weighing
  - — Animal/dynamic weighing
  - — Gross-Net-Tare
  - — Totalisation
  - — High point
  - — Density
  - — Statistics
  - — Pipette calibration
- Autocalibration with internal motorised weights for span calibration and temperature-sensitive initialisation (user-prompt optional)
- GLP-compliant outputs via built-in RS232 interface
- Weigh-below facility
- Adjustable environmental filters

Model		DV114C	DV214C	DV314C	DV215CD
Capacity	*g*	110	210	310	81*/210
Readability	*mg*	0.1	0.1	0.1	0.01*/0.1
Repeatability	*mg*	0.1	0.1	0.2	0.02*/0.1
Linearity	*mg±*	0.1	0.1	0.1	0.01/0.1
Weighing modes		mg, g, ct, oz, ozt, gn, dwt, mo, tl, custom — all models			
Pan size	*mm*	90 diameter — all models			
Height above pan	*mm*	240 — all models			
Dimensions, W x D x H	*mm*	200 x 457 x 300 — all models			
Net weight	*kg*	10.2 — all models			
Power		a.c. adapter for 220-240V 50/60Hz a.c. — all models			

* Higher resolution fine range available throughout the overall weighing range.

Discovery Series Balances

As described. With backlit LCD readout, RS232 interface, below-balance weighing facility, in-use cover and a.c. adapter for 220-240V 50/60Hz single phase supplies.

BB590-10 Model DV114C
BB590-20 Model DV214C
BB590-30 Model DV314C
BB590-40 Model DV414C

Accessories

Impact printer, SRP275

With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12 Printer SRP275
BD166-48 Paper rolls for BB528-12, pack of 5
BB528-26 Ink ribbon for BB528-12, pack of 1
BB605-97 Printer cable adapter for connecting BB590 balances to BB528-12 printer



BB590



BB528-12

Electronic Balances, Pioneer Series

OHAUS®

Designed for routine weighing tasks in a variety of laboratory, industrial and educational applications.

- Choice of internal or external calibration models
- Large LCD display
- Choice of selectable units*: mg, g, kg, mg, ct, N, lb, oz, ozt, dwt, ti, tl, mo, Ba, gn, tla, mesgl and custom
- Parts counting and percentage weighing functions
- 3-button operation
- GLP output via RS232 of balance ID, with spaces for recording user and project ID's, time and date
- Selectable environmental filter settings
- Analytical models have an easily dismantled draught shield for easy cleaning
- Weigh-below hook for density/specific gravity determination
- Integral menu and calibration lock
- Front visible levelling bubble

*Note: analytical, semi-micro and PA512/PA512C models do not have a kg weighing unit mode. Precision balances do not have a mg weighing unit mode.

Analytical series **Semi-micro series**

Model	*ext. cal.† int. cal.*	PA64 PA64C	PA114 PA114C	PA214 PA214C	PA213 PA213C	PA413 PA413C
Capacity	*g*	65	110	210	210	410
Readability	*g*	0.0001	0.0001	0.0001	0.001	0.001
Linearity	*±mg*	0.2	0.2	0.3	2	2
Pan diameter,	*mm*	90	90	90	120	120
Stabilisation time	*sec.*	3 — all models				
Overall	*W x H x D, mm*	196 x 287 x 320 — all models				
Net weight	*kg*	4.5 — all models				
Power		a.c. adapter requiring a 230V 50Hz single phase supply — all models				

†Weight not supplied.

Precision series

Model	*ext. cal.† int. cal.*	PA512 PA512C	PA2102 PA2102C	PA4102 PA4102C	PA4101 PA4101C
Capacity	*g*	510	2100	4100	4100
Readability	*g*	0.01	0.01	0.01	0.1
Linearity	*±mg*	20	20	30	30
Pan diameter,	*mm*	180	180	180	180
Stabilisation time	*sec.*	3 — all models			
Overall	*W x H x D, mm*	196 x 92 x 320 — all models			
Net weight	*kg*	3.3 — all models			
Power		a.c. adapter requiring a 230V 50Hz single phase supply — all models			

†Weight not supplied.

As described. With three button operation, RS232 output interface, weigh below facility and a.c. adapter for 230V 50Hz single phase supplies.

With external calibration

BB577-05	Model PA64
BB577-09	Model PA114
BB577-13	Model PA214
BB577-17	Model PA213
BB577-21	Model PA413
BB577-25	Model PA512
BB577-29	Model PA2102
BB577-33	Model PA4102
BB577-37	Model PA4101

With internal calibration

BB577-41	Model PA64C
BB577-45	Model PA114C
BB577-49	Model PA214C
BB577-53	Model PA213C
BB577-57	Model PA413C
BB577-61	Model PA512C
BB577-65	Model PA2102C
BB577-69	Model PA4102C
BB577-73	Model PA4101C

Accessories

Impact printer, SRP275

With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12	Printer SRP275
BD166-48	Paper rolls for BB528-12, pack of 5
BB528-26	Ink ribbon cassette for BB528-12, pack of 1
BB605-97	Printer cable adapter for connecting BB577 balances to BB528-12 printer

Calibration weights - *see BD912-series.*



BB577 analytical/semi-micro models



BB577 precision models

Explorer Series Analytical Balances

OHAUS®

- Brilliant, backlit, high resolution, VGA, touchscreen display programming
- Multiple application modes and user application setting library
- Application modes:
  - — Parts counting
  - — Check weighing
  - — Filling
  - — Pipette adjustment
  - — Totalisation
  - — Differential weighing
  - — Ingredient costing
  - — Dynamic weighing
  - — Percentage weighing
  - — Gross-Net-Tare
  - — Density determination
  - — Formulation
  - — Peak hold
  - — Under/over filling
- Internal autocalibration, with temperature and time-sensitive initialisation
- 11 language display text options, including: English, Spanish, French, German and Italian
- GLP and GMP compliant outputs through USB or RS232 ports
- Touchless operation sensor
- Detachable display/control module for remote use (cable included)
- 3-door draught shield with removable panels and internal light (0.0001 and 0.001g readability models only)

Model		EX124	EX224	EX324
Capacity	*g*	120	220	320
Readability	*mg*	0.1	0.1	0.1
Weighing modes		g, mg, oz, ozt, ct, dwt, taels, mo, gn, ti, N, custom — all models		
Pan size	*mm*	90 diameter — all models		
Height above pan	*mm*	220 — all models		
Dimensions, W x D x H	*mm*	230 x 393 x 350 — all models		

Explorer Series Analytical Balances
As described. With high resolution, back-lit, dot matrix display with protective in-use cover, 500mm extension cable for detachable module, RS232 and USB interfaces, below balance weigh facility and a.c. adapter for 100-240V 50/60Hz single phase supplies.

BB610-12 Model EX124
BB610-22 Model EX224
BB610-32 Model EX324

Accessories
Impact printer, SRP275
With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12 Printer SRP275
BD166-48 Paper rolls for BB528-12, pack of 5
BB528-26 Ink ribbon cassette for BB528-12, pack of 1
BB605-97 Printer cable adapter for connecting BB610 balances to BB528-12 printer

Calibration weights – *see BD912-series.*



BB610



BB528-12

Explorer Series Top Loading Balances

OHAUS®

- Brilliant, backlit, high resolution, VGA, display touchscreen programming
- Multiple application modes and user application settings library
- Application modes:
  - — Parts counting
  - — Check weighing
  - — Filling
  - — Pipette adjustment
  - — Totalisation
  - — Differential weighing
  - — Ingredient costing
  - — Dynamic weighing
  - — Percentage weighing
  - — Gross-Net-Tare
  - — Density determination
  - — Formulation
  - — Peak hold
  - — Under/over filling
- Internal autocalibration, with temperature and time-sensitive initialisation (except BB623-series)
- 11 language display options, including: English, Spanish, French, German and Italian
- GLP and GMP compliant outputs through USB or RS232 ports
- Touchless operation sensor for hands-free operation of print, calibration, tare and selectable functions
- Detachable display/control module for remote use (cable included)
- 3-door draught shield with removable panels and internal light (0.0001 and 0.001g readability models only)

Model		EX223	EX423	EX623	EX1103	EX4202	EX6202
Capacity	*g*	220	420	620	1100	4200	6200
Readability	*g*	0.001	0.001	0.001	0.01	0.01	0.01
Weighing modes		g, mg, kg, lb,, oz, ozt, ct, dwt, taels, mo, gn, ti, N, custom — all models					
Pan size	*mm*	130 dia.	130 dia.	130 dia.	130 dia.	190 x 200	190 x 200
Dimensions, W x D x H	*mm*	230 x 393 x 350 — all models			230 x 393 x 98 — all models		

Model		EX10201	EP12001* EP12001C	EP22001* EP22001C	EP32001* EP32001C
Capacity	*g*	10200	12000	22000	32000
Readability	*g*	0.1	0.1	0.1	0.1
Weighing modes		g, kg, lb, oz, ozt, ct, dwt, taels, mo, gn, ti, N, custom — all models			
Pan size	*mm*	190 x 200	280 x 356 — all models		
Dimensions, W x D x H	*mm*	230 x 393 x 98	355 x 406 x 133 — all models		

*EP- models require accessory external calibration weights.

Explorer Series Top Loading Balances
As described. With high resolution, back-lit dot matrix display with protective in-use cover, 500mm extension cable for detachable module, RS232 and USB interfaces, below balance weighing facility and a.c. adapter for 100-240V 50/60Hz single phase supplies.

With internal calibration

BB625-12 Model EX223
BB625-17 Model EX423
BB625-27 Model EX623
BB625-29 Model EX1103

BB625-42 Model EX4202
BB625-65 Model EX6202
BB626-27 Model EX10201

BB629-27 Model EP12001C
BB629-37 Model EP22001C
BB629-47 Model EP32001C

Without internal calibration

BB623-27 Model EP12001
BB623-37 Model EP22001
BB623-47 Model EP32001

Accessories

Impact printer, SRP275
With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12 Printer SRP275
BD166-48 Paper rolls for BB528-12, pack of 5
BB528-26 Ink ribbon cassette for BB528-12, pack of 1
BB605-97 Printer cable adapter for connecting BB625/BB626 balances to BB528-12 printer

Calibration weights - *see BD912-series.*

EC Type Approved versions are available - *details on request.*



BB625/BB626



BB623/BB629

Defender™3000 Bench Scale Balances

OHAUS®

- Selectable weighing units: kg, g, lb, oz, lb:oz
- Parts counting mode with selectable samples sizes: 5, 10, 20, 50, 100 piece, with memory of last sample size and weight
- Rugged construction with tubular, painted carbon steel frame, aluminium loadcell protected to IP67 and Grade 304 stainless steel platform
- Adjustable non-slip rubber levelling feet with external level indicator
- ABS indicator housing and backlit, high-resolution LCD readout with 25mm high digits
- Stabilisation time: 2 seconds
- Fitted with bidirectional RS232 interface
- Span capacity 5lb/kg to 100% capacity
- Internal rechargeable lead acid battery and a.c. adapter
- Additional features include auto-off for battery power conservation, auto-zero tracking, environmental filtering and gravitational force adjustment

Model		D31 P30BR	D31 P60BR	D31 P60BL	D31 P150BL
Capacity	*kg*	30	60	60	150
Readability	*g*	5	10	10	20
Platform size	*mm*	355 x 305	355 x 305	550 x 420	550 x 420
Tower mount height	*mm*	350	350	700	700
Weight	*kg*	16.4	16.4	24.5	24.5

Defender 3000 series

As described. Supplied with indicator and tower mount. a.c. adapter and rechargeable battery. A 240V 50/60Hz a.c. single phase supply is required for the adapter.

BB865-10 Model D31 P30BR
BB865-20 Model D31 P60BR
BB865-30 Model D31 P60BL
BB865-40 Model D31 P150BL

Impact printer, SRP275

With paper rolls, ribbon and mains adapter for 230V 50Hz supplies. Requires printer cable adapter for connection to balances with RS232 output only.

BB528-12 Printer SRP275
BD166-48 Paper rolls for BB528-12, pack of 5
BB528-26 Ink ribbon cassette for BB528-12, pack of 1
BB605-97 Printer cable adapter for connecting BB865 balances to BB528-12 printer



BB865



BB528-12

METTLER TOLEDO NewClassic MS-series Balances

- Semi-micro, Analytical and Precision models
- Selectable weight units: g, oz, ozt, lb, GN, dwt, ct, mo, m, tl and functions: piece counting, % and dynamic weighing, check weighing, statistics, formulation and factor application
- Stabilisation time less than 2 seconds (less than 8 seconds - semi-micro models)
- IP54 protection rating, in use
- Protected Monobloc weighing cell* for fast, accurate results with consistent reliability and ruggedness
- Die-cast aluminium, chemically resistant coated housing
- Touch key operation and bright, green, LED display
- FACT internal autocalibration* which is triggered periodically or if external temperature exceeds set limits. Alternatively calibration can be started manually
- DeltaRange (-DR) available on some models
- -DU models have a higher resolution, fine range available
- 0.00001 readability models have Ergodoor operation where either side door is opened from the opposite side
- 0.00001 to 0.001g readability models supplied with easily dismantled draught shield for cleaning, which is dishwasher-safe
- RS232C and USB interfaces built-in

*Strain-gauge models with external calibration function are also available (-SE and -LE models).

Semi-micro/Analytical Series

Supplied with in-use cover and mains adapter requiring a 115-230V 50/60Hz a.c. single phase supply.

BC036-05 Model MS105
BC036-10 Model MS105DU
BC036-20 Model MS104S

BC036-22 Model MS205DU
BC036-25 Model MS204S
BC036-30 Model MS304S

Analytical Series

Supplied with in-use cover and mains adapter requiring a 115-230V 50/60Hz a.c. single phase supply.

BC046-10 Model MS303SE*
BC046-14 Model MS303S
BC046-18 Model MS403S
BC046-22 Model MS603S
BC046-26 Model MS1003S

Printer RS-P26

Dot matrix. With zero/tare command, date and time print, paper feed, print command and select functions. Provides GLP/GMP-compliant printout on non-fading, temperature-stable paper. Supplied with 1 metre long, 9-pin, RS232 interface cable, paper roll and ribbon cartridge. Overall 120 x 230 x 73mm W x D x H. Weight 0.75kg. For 100-240V 50/60Hz a.c. single phase supplies.

BC540-22 Printer RS-P26
BC540-36 Spare plain paper rolls for BC540-22, pack of 5
BC540-39 Spare ribbon cartridge for BC540-22, pack of 1

Semi-micro/Analytical Series

Catalogue No.		***BC036-05***	***BC036-10***	***BC036-20***
Model		MS105†	MS105DU†	MS104S
Readability	*mg*	0.01	0.01/0.1	0.1
Weighing capacity	*g*	120	42/120	120
Repeatability (s)	*mg*	0.04	0.08	0.1
Linearity	*mg±*	0.1	0.15	0.2
Pan diameter	*mm*	80	80	90
Housing W x D x H	*mm*	247 x 358 x 331	247 x 358 x 331	204 x 347 x 345
Height above pan	*mm*	234	234	237

Catalogue No.		***BC036-22***	***BC036-25***	***BC036-30***
Model		MS205DU†	MS204S	MS304S
Readability	*mg*	0.01/0.1	0.1	0.1
Weighing capacity	*g*	82/220	220	320
Repeatability (s)	*mg*	0.08	0.1	0.1
Linearity	*mg±*	0.2	0.2	0.3
Pan diameter	*mm*	80	90	90
Housing W x D x H	*mm*	247 x 358 x 331	204 x 347 x 345	204 x 347 x 345
Height above pan	*mm*	234	237	237

Catalogue No.		***BC046-10***	***BC046-14***	***BC046-18***	***BC046-22***	***BC046-26***
Model		MS303SE*	MS303S	MS403S	MS603S	MS1003S
Readability	*mg*	1	1	1	1	1
Weighing capacity	*g*	320	320	420	620	1020
Repeatability (s)	*mg*	1	1	1	1	1
Linearity	*mg±*	2	2	2	2	2
Pan size	*mm*	127 x 127 — all models				
Housing W x D x H	*mm*	204 x 347 x 280 — all models				
Height above pan	*mm*	165 — all models				

*Strain-gauge model with external calibration requiring accessory weight.
†Semi-micro models.

Calibration weights for -SE/-LE models with external calibration function - *see BD912-series.*

continued on next page



BC036



BC046

METTLER TOLEDO NewClassic MS-series Balances continued

Precision Series

Catalogue No.		***BC049-15***	***BC049-20***	***BC049-25***	***BC049-30***	***BC049-35***	***BC049-40***
Model		MS1602SE*	MS1602S	MS3002SE*	MS3002S	MS4002S	MS4002SDR
Readability	*g*	0.01	0.01	0.01	0.01	0.01	0.01/0.1
Weighing capacity	*g*	1620	1620	3200	3200	4200	820/4200
Repeatability (s)	*g*	0.01	0.01	0.01	0.01	0.01	0.01/0.06
Linearity	*g±*	0.02	0.02	0.02	0.02	0.02	0.02/0.2
Pan size	*mm*	170 x 200 — all models					
Housing W x D x H	*mm*	194 x 347 x 96 — all models					

Catalogue No.		***BC049-45***	***BC049-50***	***BC049-55***	***BC049-65***	***BC049-80***
Model		MS6002S	MS6002SDR	MS6001S	MS8001SE*	MS8001S
Readability	*g*	0.01	0.01/0.1	0.1	0.1	0.1
Weighing capacity	*g*	6200	1220/6200	6200	8200	8200
Repeatability (s)	*g*	0.01	0.01/0.06	0.01	0.01	0.01
Linearity	*g±*	0.02	0.02	0.2	0.2	0.2
Pan size	*mm*	170 x 200	170 x 200	190 x 226	190 x 226	190 x 226
Housing W x D x H	*mm*	194 x 347 x 96 — all models				

*Strain-gauge model with external calibration requiring accessory weight.

Precision Series

Supplied with in-use cover and mains adapter requiring a 115-230V 50/60Hz a.c. single phase supply.

BC049-15 Model MS1602SE
BC049-20 Model MS1602S
BC049-25 Model MS3002SE
BC049-30 Model MS3002S

BC049-35 Model MS4002S
BC049-40 Model MS4002SDR
BC049-45 Model MS6002S
BC049-50 Model MS6002SDR

BC049-55 Model MS6001S
BC049-65 Model MS8001SE
BC049-80 Model MS8001S

Printer RS-P26

Dot matrix. With zero/tare command, date and time print, paper feed, print command and select functions. Provides GLP/GMP-compliant printout on non-fading, temperature-stable paper. Supplied with 1 metre long, 9-pin, RS232 interface cable, paper roll and ribbon cartridge. Overall 120 x 230 x 73mm W x D x H. Weight 0.75kg. For 100-240V 50/60Hz a.c. single phase supplies.

BC540-22 Printer RS-P26
BC540-36 Spare plain paper rolls for BC540-22, pack of 5
BC540-39 Spare ribbon cartridges for BC540-22, pack of 2

Calibration weights for -SE/-LE models with external calibration function - *see BD912-series.*

continued on next page

BC540-22





BC049-35



BC049-80

METTLER TOLEDO NewClassic MS-series Balances continued

Precision Series continued

Catalogue No.		BC074-10	BC074-14	BC074-18
Model		MS12001L	MS16001LE*	MS16001L
Readability	g	0.1	0.1	0.1
Weighing capacity	g	12200	16200	16200
Repeatability (s)	g	0.1	0.1	0.1
Linearity	g±	0.2	0.2	0.2
Pan size	mm	351 x 245 — all models		
Housing W x D x H	mm	363 x 346 x 118 — all models		

Catalogue No.		BC074-25	BC074-30	BC074-35	BC074-40
Model		MS32001LE*	MS32001L	MS32000LE*	MS32000L
Readability	g	0.1	0.1	1	1
Weighing capacity	g	32200	32200	32200	32200
Repeatability (s)	g	0.1	0.1	0.5	0.5
Linearity	g±	0.3	0.3	1	1
Pan size	mm	351 x 245 — all models			
Housing W x D x H	mm	363 x 346 x 118 — all models			

*Strain-gauge model with external calibration requiring accessory weight.

Precision Series

Supplied with in-use cover and mains adapter requiring a 115-230V 50/60Hz a.c. single phase supply.

BC074-10 Model MS12001L
BC074-14 Model MS16001LE
BC074-18 Model MS16001L
BC074-25 Model MS32001LE

BC074-30 Model MS32001L
BC074-35 Model MS32000LE
BC074-40 Model MS32000L

Printer RS-P26

Dot matrix. With zero/tare command, date and time print, paper feed, print command and select functions. Provides GLP/GMP-compliant printout on non-fading, temperature-stable paper. Supplied with 1 metre long, 9-pin, RS232 interface cable, paper roll and ribbon cartridge. Overall 120 x 230 x 73mm W x D x H. Weight 0.75kg. For 100-240V 50/60Hz a.c. single phase supplies.

BC540-22 Printer RS-P26
BC540-36 Spare plain paper rolls for BC540-22, pack of 5
BC540-39 Spare ribbon cartridges for BC540-22, pack of 2

Calibration weights for -SE/-LE models with external calibration function - *see BD912-series.*



BC540-22



BC074-30

Portable Electronic Balances, HL-i, HT and SJ-HS series

A&D

HL-i series

- Compact, basic weighing scales with large, 13.5mm high, LCD readout
- Choice of weighing modes: g, oz, tl, ct (HL-200i only)
- External calibration using accessory weight
- Full range tare by subtraction
- Overload, low battery and reading stability indicators
- Battery or mains operation (using accessory adapter)

HT-series

- Rugged design
- Battery or mains operation (using accessory adapter)
- Large 13.5mm high LCD display
- Large, rectangular pan
- Tare function
- Multiple weighing units
- External calibration using accessory weights

SJ-HS-series

- High resolution balances with rapid stabilisation (<1 second)
- Large 25mm high LCD readout
- Large, stainless steel weighing pan
- External calibration using accessory weights
- Battery or mains operation (using accessory adapter)
- Adjustable feet and levelling bubble for accurate weighing

Cat. No.	*Model*	*Capacity g*	*Readability g*	*Linearity g*	*Weighing modes*	*Power*	*Pan mm*	*Overall, H x W x D mm*	*Weight g*
BD180-10	HL-200i	200	0.1	±0.2	g, oz, ct, tl	4 x 1.5V AA batteries or	130 dia.	51 x 130 x 192	0.5
BD180-25	HL-2000i	2000	1	±2	g, oz, tl	a.c. adapter — all models	130 dia.	51 x 130 x 192	0.5
BD185-15	HT-300	310	0.1	±0.4	g, lb, oz,	4 x 1.5V AA batteries or	132 x 130	44 x 195 x 136	0.5
BD185-20	HT-500	510	0.1	±0.4	lb:oz, tl, tla	a.c. adapter — all models	132 x 130	44 x 195 x 136	0.5
BD185-35	HT-3000	3100	1	±2	— all models		132 x 130	44 x 195 x 136	0.5
BD185-44	HT-5000	5100	1	±2			132 x 130	44 x 195 x 136	0.5
BD187-20	SJ-1000HS	1000	0.5	±1	g, lb, oz, lb:oz	4 x 1.5V AA batteries or	230 x 190	103 x 265 x 250	2.1
BD187-40	SJ-2000HS	2000	1	±2	g, lb, oz, lb:oz	a.c. adapter — all models	230 x 190	103 x 265 x 250	2.1
BD187-55	SJ-5001HS	5000	1	±5	g, lb, oz, lb:oz		230 x 190	103 x 265 x 250	2.1
BD187-60	SJ-5000HS	5000	2	±5	g, lb, oz, lb:oz		230 x 190	103 x 265 x 250	2.1
BD187-80	SJ-12K-HS	12000	5	±10	g, lb, oz, lb:oz		230 x 190	103 x 265 x 250	2.1

HL-i series

BD180-10 Model HL-200i
BD180-25 Model HL-2000i

Accessories for BD180 balances

BD183-08 Accessory mains adapter for 230V 50/60Hz a.c
BL610-15 1.5V AA battery (4 required)
BD722-24 Calibration weight, 200g for BD180-10
BD722-30 Calibration weight, 2kg for BD180-25

HT-series

BD185-15 Model HT-300
BD185-20 Model HT-500
BD185-35 Model HT-3000
BD185-44 Model HT-5000

Accessories for BD185 balances

BL610-15 1.5V AA battery (4 required)
BD185-90 Stainless steel pan MUST BE ORDERED WITH BALANCE
BD185-95 Accessory mains adapter for 230V 50/60Hz a.c.
BD722-22 Calibration weight, 100g for BD185-15 (3 required)
BD722-26 Calibration weight, 500g for BD185-20
BD722-28 Calibration weight, 1kg for BD185-35 (3 required)
BD722-32 Calibration weight, 5kg for BD185-44

SJ-HS-series

BD187-20 Model SJ-1000HS
BD187-40 Model SJ-2000HS
BD187-55 Model SJ-5001HS
BD187-60 Model SJ-5000HS
BD187-80 Model SJ-12K-HS

Accessories for BD187 balances

BL610-22 1.5V D battery (4 required)
BD183-08 Accessory mains adapter for 230V 50/60Hz a.c.
BD722-24 Calibration weight, 1kg for BD187-20
BD722-30 Calibration weight, 2kg for BD187-40
BD722-32 Calibration weight, 5kg for BD187-55 and -60
BD722-35 Calibration weight, 10kg for BD187-80



BD180



BD185



BD187

Portable Electronic Balances, EK-i series

- Compact, lightweight design
- High resolution
- RS232C interface
- GLP output with I.D. and series number (using accessory printer)
- Clear, backlit, 16mm high LCD
- Full range tare
- Adjustable stability filters
- Integral applications programmes for:
  — Piece counting — Check weighing — Percentage
- Supplied with WinCT software to allow result downloading to the users' PC in a Windows™ manageable format
- Stainless steel weighing pan

Model		EK-200i	EK-300i	EK-410i	EK-1200i	EK-2000i	EK-3000i	EK-4100i	EK-6000i	EK-12Ki
Capacity	*g*	200	300	400	1200	2000	3000	4000	6000	12000
Readability	*g*	0.01	0.01	0.01	0.1	0.1	0.1	0.1	1.0	1.0
Reproducibility	*±g*	0.01	0.01	0.01	0.1	0.1	0.1	0.1	1.0	1.0
Linearity	*≤±g*	0.01	0.02	0.02	0.1	0.1	0.1	0.2	0.2	1.0
Weighing modes		g, oz, ozt, dwt, ct, mo, GN, tael			g, oz, ozt, dwt, ct, mo, GN, tael				g, oz, lb, ozt, dwt, mo, GN, tael	
Weighing applications		Piece counting, check weighing, percentage — all models								
Weighing pan	*mm*	110 dia. — all models			133 x 170 — all models					
Operating temp.	*˚C*	-10 to +40 at 85% RH or less — all models								
Overall W x D x H	*mm*	190 x 218 x 55 — all models				190 x 218 x 53 — all models				
Weight	*kg*	1.1 — all models				1.5 — all models				

As described. Supplied with a.c. adapter for 230V 50/60Hz single phase supplies and instruction manual.

BD200-15 Model EK-200i
BD200-17 Model EK-300i
BD200-21 Model EK-410i

BD200-24 Model EK-1200i
BD200-27 Model EK-2000i
BD200-29 Model EK-3000i

BD200-30 Model EK-4100i
BD200-32 Model EK-6000i
BD200-36 Model EK-12Ki

Accessories

Rechargeable battery pack, EK/Wi-OP-09. Enables balance to operate independently of mains supply for up to 9 hours. Recharged using balance mains adapter.

BD203-08 Battery Pack

Below balance weighing hook, EK/Wi-OP-07. For use with BD200-32 and BD200-36 only.

BD203-14 Weighing hook
BD203-20 Hard carrying case for all models, CC-EKW-i

Printer, AD-8121B. Impact dot matrix printer with built-in statistical functions: weight, total weight, counting operations, standard deviation, date/time, chart and interval printing facilities. Supplied with connecting cable, alkaline batteries, a.c. adapter requiring a 230V 50/60Hz supply and print roll.

BD237-40 Printer AD-8121B
BD237-42 Print rolls for BD237-40, pack of 10



BD200-17



BD200-32

Precision Electronic Balances, FX-i and FX-i-WP series

- Weighing unit modes: g, oz, ozt, ct, mo, dwt, gn, tl, tla, lb, oz, with %, lb:oz, animal weighing, comparator, statistics and counting functions
- Digital calibration using accessory external weight
- GLP/GMP/GCP/ISO compliant output
- Large, bright, vacuum fluorescent display
- Supplied with WinCT software to provide result downloading to the users' PC in a Windows™ format using the built-in RS232C interface
- FX-i-WP models have a sealed housing to IP65 protection level, allowing use in wet and dusty environments
- Accessory USB-2 interface available for high-speed output (FX-i models only)

Model		FX-120i	FX-300i	FX-1200i	FX-3000i
Capacity	*g*	122	320	1220	3200
Readability	*g*	0.001	0.001	0.01	0.01
Reproducibility	*±g*	0.001	0.001	0.01	0.01
Linearity	*≤±g*	0.002	0.002	0.02	0.02
Pan size	*mm*	130	130	150	150
Operating temp.	*°C*	+5 to +40 at 85% RH or less — all models			
Overall	*W, mm*	194	194	194	194
	D, mm	263	263	263	263
	H, mm	175*	175*	85	85
Weight	*kg*	2.5 — all models			

*Supplied with low-profile draught shield, maximum internal height 84mm.

As described. Supplied with built-in RS232C bidirectional interface, data transfer software, a.c. adapter for 230V 50/60Hz single phase supplies and instruction manual.

FX-i series

BD207-15 Model FX-120i
BD207-30 Model FX-300i
BD207-45 Model FX-1200i
BD207-60 Model FX-3000i
BD207-95 Accessory USB-2 interface for BD207-series only

FX-i-WP series, water/dustproof

BD209-15 Model FX-120i-WP
BD209-30 Model FX-300i-WP
BD209-45 Model FX-1200i-WP
BD209-60 Model FX-3000i-WP
BD209-80 Accessory IP65 RS232 cable for BD209-series only

Calibration weights - *see BD722-series.*

Analytical Electronic Balances, HR-A/HR-AZ series NEW!

- Choice of autocalibration (HR-AZ) or external calibration using accessory weights (HR-A) models
- Weighing unit modes: g, mg, oz, ozt, ct, mo, dwt, gn, tl, tla, with %, counting, density and custom unit modes
- GLP-, GMP-, GCP- and ISO-compliant output
- Plastic draught shield with rotary sliding doors complies with FDA/HACCP "glass-free requirements" and unclips for easy cleaning and balance use in confined spaces
- Selectable weighing filters
- High contrast, reverse-backlit LCD readout

Model	*ext. cal.* *int. cal.*	HR-100A HR-100AZ	HR-150A HR-150AZ	HR-250A HR-250AZ
Capacity	*g*	102	152	252
Readability	*g*	0.0001	0.0001	0.0001
Reproducibility	*±g*	0.0001	0.0001	0.0001 (0 to 200g), 0.0002 (rest of range)
Linearity	*±g*	0.0002	0.0002	0.0003
Pan size	*mm*	90 dia.	90 dia.	90 dia.
Operating temp.	*°C*	+5 to +40 at 85% RH or less — all models		
Overall	*W, mm*	198	198	198
	D, mm	294	294	294
	H, mm	315	315	315
Weight	*HR-A, kg*	3.5	3.5	3.5
	HR-AZ, kg	3.9	3.9	3.9

As described. Supplied with an a.c. adapter for 230V 50/60Hz single phase supplies, instruction manual and RS232C interface.

External calibration models (require weight)

BD225-40 HR-100A
BD225-45 HR-150A
BD225-50 HR-250A

Autocalibration models (internal weight)

BD225-60 HR-100AZ
BD225-65 HR-150AZ
BD225-70 HR-250AZ

BD230-25 USB adapter
BD230-35 LAN ethernet adapter
BD900-55 Calibration weight class F1, 50g
BD900-58 Calibration weight class F1, 100g
BD900-62 Calibration weight class F1, 200g



BD207-60



BD209-30



BD225

Analytical Electronic Balances, GR- series

- Compact, ergonomic design
- Weighing unit modes: g, mg, oz, ozt, ct, mo,dwt, gn, tl, t, m with % and counting application programmes
- Selectable weighing filters allow configuration to a variety of environmental conditions
- Clear wide angle liquid crystal display
- Dual layer ABS/aluminium construction gives robust housing and minimises the effect of ambient temperature changes
- EC Type approved (2nd stage verification available at extra cost)
- Programmable logging facility holds up to 200 sets of data
- Automatic self calibration triggered by ambient temperature change beyond set limits, or one touch calibration using accessory calibration weight
- Built-in GLP software allows output of balance serial number, user-set i.d. number, calibration data and date/time using the built-in RS232C interface
- Unique door opening system allows easy access to the weighing chamber from left or right
- Below balance weighing hook

Model		GR-120-EC	GR-200-EC	GR-202-EC	GR-300-EC
Capacity	*g*	120	210	42/210	310
Readability	*g*	0.0001	0.0001	0.00001/0.0001	0.0001
Reproducibility	*±g*	0.0001	0.0001	0.00002/0.0001	0.0001
Linearity	*±g*	0.0002	0.0002	0.00003/0.0002	0.0002
Pan size	*mm*	85 diameter — all models			
Free height above weighing pan	*mm*	219 — all models			
Operating temp.	*°C*	+5 to +40 at 85% RH or less — all models			
Overall W x D x H	*mm*	249 x 330 x 327 — all models			
Weight	*kg*	6 — all models			

As described. With built-in RS232C bi-directional interface, data transfer software, a.c. adapter for 230V 50/60Hz single phase supplies and instruction manual.

BD235-10 Model GR-120-EC
BD235-20 Model GR-200-EC
BD235-25 Model GR-202-EC
BD235-30 Model GR-300-EC

Accessories

Printer, AD-8121B. Impact dot matrix printer with built-in statistical functions: weight, total weight, counting operations, standard deviation, date/time, chart and interval printing facilities. Supplied with connecting cable, alkaline batteries, a.c. adapter requiring a 230V 50/60Hz supply and print roll.

BD237-40 Printer AD-8121B
BD237-42 Print rolls for BD237-40, pack of 10

BD900-55 Calibration weight, class F1, 50g
BD900-58 Calibration weight, class F1, 100g
BD900-62 Calibration weight, class F1, 200g



BD235



BD237-40

Analytical Electronic Balances, GX series

- Super Hybrid Sensor technology gives rapid response and high performance with minimum maintenance
- Weighing unit modes: g,oz, lb, lb:oz, ozt, ct, mo, dwt, GN, tl, t, msg with %, counting and animal weighing modes
- Automatic self calibration triggered by ambient temperature change beyond set limits, or one touch calibration using accessory calibration weight
- Automatic adjustable environment setting adapts balance response to the most appropriate for operational conditions
- Vacuum fluorescent display allows easy reading even with low ambient light, and automatically switches off after 10 minutes without use
- EC Type approved models (2nd stage verification available at extra cost)
- Built-in GLP software allows output of balance serial number, user-set i.d. number, calibration data and date/time using the built-in RS232 interface
- Below balance weighing hook
- Programmable logging facility holds up to:
  200 sets of weighing data, or:
  100 sets of weighing/time:date data, or:
  50 sets of GLP data, or:
  20 sets of unit weight for counting mode
- Supplied with WinCT software to allow result downloading to the users PC in a Windows™ manageable format

Model		GX-200-EC	GX-400-EC	GX-600-EC	GX-2000-EC	GX-4000-EC	GX-6100-EC	GX-6000-EC	GX-8000-EC
Capacity	*g*	210	410	610	2100	4100	6100	6100	8100
Readability	*g*	0.001	0.001	0.001	0.01	0.01	0.01	0.1	0.1
Reproducibility	*±g*	0.001	0.001	0.001	0.01	0.01	0.01	0.1	0.1
Linearity	*±g*	0.002	0.002	0.003	0.02	0.02	0.03	0.1	0.1
Pan size	*mm*	128 x 128 — all models			165 x 165 — all models				
Operating temp.	*°C*	+ 5 to +40 at 85% RH or less — all models							
Overall W x D x H	*mm*	210 x 317 x 300* — all models			210 x 317 x 86 — all models				
Weight	*kg*	4.6 — all models			5.1 — all models				

*Supplied with a draught shield.

As described. With internal autocalibration, built-in RS232C bi-directional interface, WinCT data transfer software, below-balance weighing hook, a.c. adapter for 230V 50/60Hz single phase supplies and instructions.

BD260-10 Model GX-200-EC
BD260-20 Model GX-400-EC
BD260-30 Model GX-600-EC
BD260-55 Model GX-2000-EC

BD260-65 Model GX-4000-EC
BD260-75 Model GX-6100-EC
BD260-80 Model GX-6000-EC
BD260-85 Model GX-8000-EC

Accessories

Printer, AD-8121B. Impact dot matrix printer with built-in statistical functions: weight, total weight, counting operations, standard deviation, date/time, chart and interval printing facilities. Supplied with connecting cable, alkaline batteries, a.c. adapter requiring a 230V 50/60Hz supply and print roll.

BD237-40 Printer AD-8121B
BD237-42 Print rolls for BD237-40, pack of 10

External calibration weights - *see BD900/BD912.*



BD260-30



BD260-75

Precision Electronic Balances, GF- series

- Super Hybrid Sensor technology gives rapid response and high performance with minimum maintenance
- Weighing unit modes: g, oz, lb, lb:oz, ozt, ct, mo, dwt, gn, tl, t, msg with %, counting and animal weighing modes
- Vacuum fluorescent display allows easy reading even with low ambient light, and automatically switches off after 10 minutes without use
- Automatic adjustable environment setting adapts balance response to the most appropriate for operational conditions
- One touch calibration using accessory external calibration weight
- Below balance weighing hook
- Data memory function holds up to 40 sets of weighing data or 20 sets of unit weight for counting mode
- Built-in RS232C bi-directional interface
- Supplied with WinCT software to allow result downloading to the users PC in a Windows™ manageable format

Model		GF-200	GF-300	GF-600	GF-1000	GF-1200	GF-2000	GF-3000	GF-6000
Capacity	*g*	210	310	610	1100	1210	2100	3100	6100
Readability	*g*	0.001	0.001	0.001	0.001	0.01	0.01	0.01	0.1
Reproducibility	*±g*	0.001	0.001	0.001	0.001	0.01	0.01	0.01	0.1
Linearity	*±g*	0.002	0.002	0.002	0.002	0.02	0.02	0.02	0.1
Pan size	*mm*	128 x 128 — all models				165 x 165 — all models			
Operating temp.	*°C*	+5 to +40 at 85% RH or less — all models							
Overall W x D x H	*mm*	210 x 317 x 138* — all models				210 x 317 x 86 — all models			
Weight	*kg*	3.8 — all models				4.3 — all models			

*Supplied with a low-profile draught shield.

As described. With WinCT data transfer software, RS232C bi-directional interface, below-balance weighing hook, a.c. adapter for 230V 50/60Hz single phase supplies and instructions.

BD265-15 Model GF-200
BD265-25 Model GF-300
BD265-29 Model GF-600
BD265-31 Model GF-1000

BD265-35 Model GF-1200
BD265-45 Model GF-2000
BD265-55 Model GF-3000
BD265-65 Model GF-6000

Accessory

BD255-15 Glass draught shield, OP-10, 220mm high for use with GF200, GF300

External calibration weights - *see BD900/912.*



BD265-25 with BD255-15



BD265-35/BD235-65

Competence CPA-Series Analytical and Precision Balances

sartorius mechatronics

- 4 - key operation, with % weighing, net-total formulation, animal weighing, parts counting and mass unit conversion functions
- Large digit, high contrast, backlit display (except micro readability models)
- isoCal autocalibration function automatically recalibrates balance if temperature changes exceed set limits or defined time period has elapsed
- RS232 interface and ISO/GLP data output capability

Competence, CPA Series Balances

As described. Digital reading. Full range tare. With a.c. adapter for 115, 230V 50/60Hz supplies.

BD160-05 Model CPA26P
BD160-08 Model CPA225D
BD160-11 Model CPA64

BD160-16 Model CPA124S
BD160-21 Model CPA224S
BD160-26 Model CPA324S

Accessories

Rechargeable battery pack, YRB05Z, for BD160/ BD164 balances with capacity less than 10kg. Enables mains supply - independent operation. Recharged using adapter supplied with balance.

BD166-02 YRB05Z

Sartocollect data transfer software YSC02. Provides data transfer and integration into Microsoft® Excel, Word, Access or an ASCII file. Compatible with Windows 2000, XP, Vista and 7 operating systems.

BD166-11 YSC02

Antistatic pan, YWP01CP. Replaces the standard pan in analytical balances BD160-series.

BD166-20 YWP01L

Printer, YDP20-0CE. Prints out data output from the balance with date/time and statistical functions. Powered via the balance connection cord.

BD166-47 YDP20-0CE
BD166-48 Paper rolls, pack of 5

Micro/Semi-Micro - Readability 0.000001g/0.000002g/0.00001g

Catalogue No.		***BD160-05***	***BD160-08***	***BD160-11***
Model		CPA26P	CPA225D	CPA64
Readability	*mg*	0.002/0.01	0.01/0.01/0.1	0.0001
Capacity	*g*	5/21	40/100/200	64
Repeatability	*±mg*	0.004	0.02/0.05/0.1	0.1
Linearity	*±mg*	0.008	0.03/0.1/0.2	0.2
Response time (average)	*secs.*	10	2	2
Weighing pan, diameter	*mm*	50	80*	80*
Available height above pan	*mm*	165	232	232
Overall W x D x H	*mm*	213 x 342 x 270	213 x 342 x 340	213 x 342 x 340
Weight	*kg*	6.5 — all models		
Standard features/equipment		a.c. adapter, draught shield, level indicator, RS232 interface, isoCAL autocalibration function		

*Inner circle of triangular pan on BD160-08 and BD160-11 can accommodate larger vessels of a diameter up to 95mm and 130mm, respectively.

Analytical - Readability 0.0001g

Catalogue No.		***BD160-16***	***BD160-21***	***BD160-26***
Model		CPA124S	CPA224S	CPA324S
Readability	*g*	0.0001	0.0001	0.0001
Capacity	*g*	120	220	320
Repeatability	*±mg*	0.1	0.1	0.2
Linearity	*±mg*	0.2	0.2	0.3
Response time (average)	*secs.*	2	2	3
Weighing pan	*mm*	80 diameter* - all models		
Available height above pan	*mm*	232 — all models		
Overall W x D x H	*mm*	213 x 342 x 340 — all models		
Weight	*kg*	6.5 — all models		
Standard features/equipment		a.c. adapter, analytical draught shield, level indicator, RS232 interface, below-balance weighing facility, isoCAL autocalibration function		

*Inner circle of triangular pan can accommodate larger vessels up to 130mm diameter.

continued on next page



BD160-05, BD160-08 is similar



BD160-11 to BD160-26

Competence CPA-Series Balances continued

sartorius mechatronics

Analytical/General Purpose - Readability 0.001g

Catalogue No.	***BD164***	***-09***	***-13***	***-21***	***-23***	***-24***	***-27***
Model		CPA223S	CPA323S	CPA423S	CPA1003P	CPA623S	CPA1003S
Readability	*g*	0.001	0.001	0.001	0.001/0.01	0.001	0.001
Capacity	*g*	220	320	420	500/1000	620	1000
Repeatability	*±g*	0.001 — all models			0.001/0.01	0.001 — both models	
Linearity	*±g*	0.002 — all models			0.002/0.02	0.002 — both models	
Response time (average)	*secs.*	1.5 — all models			1.5	1.5 — both models	
Weighing pan, diameter	*mm*	110* — all models			110*	110* — both models	
Overall W x D x H	*mm*	213 x 342 x 153 — all models			213 x 342 x 340	213 x 342 x 153 — both models	
Weight	*kg*	3.7 — all models			4.2	3.7 — both models	
Standard features/equipment		a.c. adapter, 3-piece low profile draught shield, level indicator, RS232 interface, below-balance weighing facility, isoCAL autocalibration function					

*Diameter of inner circle of triangular pan which can accommodate larger vessels up to 176mm diameter.

General Purpose - Readability 0.01g

Catalogue No.	***BD164***	***-32***	***-36***	***-41***	***-48***
Model		CPA2202S	CPA3202S	CPA4202S	CPA6202S
Readability	*g*	0.01 — all models			
Capacity	*g*	2200	3200	4200	6200
Repeatability	*±g*	0.01 — all models			
Linearity	*±g*	0.02 — all models			
Response time (average)	*secs.*	1.5 — all models			
Weighing pan	*mm*	190 x 204 — all models			
Overall W x D x H	*mm*	213 x 342 x 90 — all models			
Weight	*kg*	4 — all models			
Standard features/equipment		a.c. adapter, level indicator, RS232 interface, below-balance weighing facility, isoCAL autocalibration facility			

Competence, CPA Series Balances

As described. Digital reading. Full range tare. With a.c. adapter for 115, 230V 50/60Hz supplies.

BD164-09 Model CPA223S
BD164-13 Model CPA323S
BD164-21 Model CPA423S
BD164-23 Model CPA1003P
BD164-24 Model CPA623S

BD164-27 Model CPA1003S
BD164-32 Model CPA2202S
BD164-36 Model CPA3202S
BD164-41 Model CPA4202S
BD164-48 Model CPA6202S

Accessories

Rechargeable battery pack, YRB05Z, for BD160/ BD164 balances with capacity less than 10kg. Enables mains supply - independent operation. Recharged using adapter supplied with balance.

BD166-02 YRB05Z

Rechargeable battery pack, YRB06Z, for BD160/ BD164 balances with capacity more than 10kg. Enables mains supply - independent operation. Recharged using adapter supplied with balance.

BD166-05 YRB06Z

Sartocollect data transfer software YSC02. Provides data transfer and integration into Microsoft® Excel, Word, Access or an ASCII file. Compatible with Windows 2000, XP, Vista and 7 operating systems.

BD166-11 YSC02

Printer, YDP20-0CE. Prints out data output from the balance with date/time and statistical functions. Powered via the balance connection cord.

BD166-47 YDP20-0CE
BD166-48 Paper rolls, pack of 5

continued on next page



BD164-09 to BD164-21 and BD164-24 to BD164-27



BD164-23

Competence CPA-Series Balances continued

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General Purpose - Readability 0.01/0.1g

Catalogue No.	***BD164***	***-52***	***-57***	***-61***	***-66***
Model		CPA5201	CPA6202P	CPA8201	CPA10001
Readability	*g*	0.1	0.01/0.02/0.05	0.1	0.1
Capacity	*g*	5200	1500/3000/6200	8200	10000
Repeatability	*±g*	0.1	0.01/0.01/0.03	0.1	0.1
Linearity	*±g*	0.2	0.02/0.02/0.05	0.2	0.2
Response time (average)	*secs.*	1	1.5	1.5	1.5
Weighing pan,	*mm*	190 x 204 — all models			
Overall W x D x H	*mm*	213 x 342 x 90 — all models			
Weight	*kg*	3.6 — all models			
Standard features/equipment		a.c. adapter, level indicator, RS232 interface, below-balance weighing facility, isoCAL autocalibration facility			

General Purpose - Readability 0.1/1g

Catalogue No.	***BD164***	***-73***	***-77***	***-81***	***-85***	***-89***
Model		CPA12001S	CPA16001S	CPA34001S	CPA34001P	CPA34000
Readability	*g*	0.1	0.1	0.1	0.1/0.2/0.5	1
Capacity	*g*	12000	16000	34000	8000/16000/34000	34000
Repeatability	*±g*	0.1	0.1	0.1	0.1/0.2/0.5	0.5
Linearity	*±g*	0.2	0.2	0.2	0.3/0.3/0.3	1
Response time (average)	*secs.*	1.5 — all models				
Weighing pan	*mm*	400 x 300 — all models				
Overall W x D x H	*mm*	313 x 547 x 120 — all models				
Weight	*kg*	16	16	25	25	25
Standard features/equipment		a.c. adapter, level indicator, RS232 interface, below-balance weighing facility, isoCAL autocalibration facility				

Competence, CPA Series Balances

As described. Digital reading. Full range tare. With a.c. adapter for 115, 230V 50/60Hz supplies.

BD164-52 Model CPA5201
BD164-57 Model CPA6202P
BD164-61 Model CPA8201
BD164-66 Model CPA10001
BD164-73 Model CPA12001S

BD164-77 Model CPA16001S
BD164-81 Model CPA34001S
BD164-85 Model CPA34001P
BD164-89 Model CPA34000

Accessories

Rechargeable battery pack, YRB05Z, for BD160/ BD164 balances with capacity less than 10kg. Enables mains supply - independent operation. Recharged using adapter supplied with balance.

BD166-02 YRB05Z

Rechargeable battery pack, YRB06Z, for BD160/ BD164 balances with capacity more than 10kg. Enables mains supply - independent operation. Recharged using adapter supplied with balance.

BD166-05 YRB06Z

Sartocollect data transfer software YSC02. Provides data transfer and integration into Microsoft® Excel, Word, Access or an ASCII file. Compatible with Windows 2000, XP, Vista and 7 operating systems.

BD166-11 YSC02

Printer, YDP20-0CE. Prints out data output from the balance with date/time and statistical functions. Powered via the balance connection cord.

BD166-47 YDP20-0CE
BD166-48 Paper rolls, pack of 5



BD164-32 to BD164-66



BD164-73 to BD164-89

Weighing Boats, Paper, Bottles, Scoops, Dishes

Weighing Boats
Polystyrene, disposable, can be shaped to form a pouring funnel. Available in white or black. Supplied in packs as specified.

White
BD750-01 5ml, pack of 1000
BD750-02 30ml, pack of 500
BD750-04 100ml, pack of 250

Black
BD750-61 5ml, pack of 1000
BD750-62 30ml, pack of 500
BD750-64 100ml, pack of 250

Weighing Boats
Antistatic, diamond shape. Generally as BD750 series but manufactured to eliminate the problems caused by static when weighing fine powders. Supplied in packs as specified.

White
BD753-01 5ml, pack of 1000
BD753-02 30ml, pack of 500
BD753-04 100ml, pack of 250

Black
BD753-61 5ml, pack of 1000
BD753-62 30ml, pack of 500
BD753-64 100ml, pack of 250

Quickfit Lunge-Rey Weighing Pipette — *see QWB1/0.*

Weighing Boats
Polystyrene, disposable, square shape with flat bottom, can be shaped to form a pouring funnel. Supplied in packs of 1000. White.
BD755-05 7ml, 44 x 44mm
BD755-10 100ml, 80 x 80mm
BD755-15 250ml, 140 x 140mm

Weighing Boats
Antistatic, square shape. Generally as BD755 series but manufactured to eliminate the problems caused by static when weighing fine powders. Supplied in packs of 1000. White.
BD757-05 7ml, 44 x 44mm
BD757-10 100ml, 80 x 80mm
BD757-15 250ml, 140 x 140mm

Weighing Boats
Paper. Ideal for weighing and transporting a variety of sample types, particularly pastes and creams. Nitrogen-free, parchment paper allows use in nitrogen or fat determination procedures and dissolves during Kjeldahl digestions. Overall 55 x 10 x 10mm L x W x H. Supplied in a pack of 100.
BD764-25 Weighing boats, paper



BD750/BD753 ***BD755/BD757***



BD764-25

Weighing Paper, Bottles, Scoops, Dishes

Weighing Paper
Inert, Pergamyne material. In sizes W x L, as indicated. Supplied in packs of 500 sheets.

BD766-10 100 x 100mm
BD766-20 150 x 150mm

Weighing Bottles
Glass with ground-in hollow stopper. Dimensions stated are height x diameter.

Squat form
BD770-04 30ml, 25 x 50mm
BD770-06 55ml, 30 x 60mm

Tall form
BD772-02 8ml, 40 x 20mm
BD772-04 15ml, 50 x 25mm
BD772-06 28ml, 60 x 30mm
BD772-08 60ml, 80 x 40mm
BD772-10 135ml, 100 x 50mm

Weighing Scoops
Pyrex glass, designed primarily for use where small quantities of powder are to be weighed. Powder can be introduced into the receiving vessel via the tubular stem.

	Ref.	*Capacity*
BD780-02	2115/02	3ml
BD780-04	2115/04	6ml
BD780-06	2115/06	10ml

Weighing Scoops
Azlon HDPE, for use as BD780 series.

	Ref.	*Capacity*
BD785-02	FWC320	2ml
BD785-05	FWC322	10ml
BD785-07	FWC324	35ml

Dishes, aluminium foil
Disposable, lightweight. With rim. Pack quantity is approximate.

	Top dia. x Depth mm	*Pack qty.*
BD790-06	90 x 8	80

Alternative aluminium foil dishes – *see DH798.*



BD766



BD780 ***BD785***



BD770/BD772



BD790

Balance accessories

Weights

Weight Sets, OIML M1
General purpose, brass with aluminium fractions up to 500mg. Supplied in a plastic case with forceps.

BD700-20 1mg to 100g
BD700-25 1mg to 200g
BD700-30 1mg to 500g
BD700-35 1mg to 1000g

Weights, OIML M2
Nickel-plated brass. Supplied singly.

BD722-10 1g
BD722-12 2g
BD722-14 5g
BD722-16 10g
BD722-18 20g
BD722-20 50g
BD722-22 100g
BD722-24 200g
BD722-26 500g
BD722-28 1kg
BD722-30 2kg
BD722-32 5kg
BD722-35 10kg

Forceps
Nickel plated brass with curved ends.

BD725-10

Weights
Iron hexagonal shape, with ring.

BD735-02 50g
BD735-04 100g
BD735-06 200g
BD735-08 500g
BD735-10 1kg
BD735-12 2kg
BD735-14 5kg
BD735-16 10kg
BD735-18 20kg



BD700



BD722 *BD725* *BD735*

Calibration Weights, UKAS

OIML Class F1 Certified

- Supplied with certificate traceable to United Kingdom Accreditation Service (UKAS)
- Calibration carried out in accordance with the requirements of ISO9002
- Shape conforms with OIML standard

Individual Weights
OIML Class F1. Complete with UKAS traceable certificate. Weights 1mg to 5mg are aluminium. Weights 10mg to 20kg are highly polished stainless steel supplied in a plastic box with handling glove or tweezers as appropriate.

BD900-10 1mg
BD900-12 2mg
BD900-16 5mg
BD900-19 10mg
BD900-22 20mg
BD900-25 50mg
BD900-28 100mg
BD900-32 200mg
BD900-35 500mg
BD900-40 1g
BD900-43 2g
BD900-46 5g
BD900-49 10g
BD900-52 20g
BD900-55 50g
BD900-58 100g
BD900-62 200g
BD900-65 500g
BD900-68 1kg
BD900-72 2kg
BD900-75 5kg
BD900-78 10kg
BD900-82 20kg

Weight Sets
OIML Class F1. Complete with UKAS traceable certificate. Sets are highly polished stainless steel (weights 1mg to 5mg are aluminium). Supplied in a box with handling glove or tweezers as appropriate.

BD903-12 1mg to 500mg
BD903-15 1mg to 100g
BD903-24 1g to 1kg
BD903-27 1g to 2kg
BD903-30 1g to 5kg
BD903-33 1g to 10kg

OIML - International Organisation for Legal Metrology.

UKAS - United Kingdom Accreditation Service (formerly NAMAS).

COFRAC - Comité Francais d'Accreditation.

Further balance accessories can be found in other sections:
— Spatulas and scoops – *see SH200 to SH305.*
— Vibrasorb® anti-vibration platform – *see FZ990.*



BD900

Calibration Weights, UKAS continued

Calibration weights, OIML Class E2 Certified
Recommended for the re-calibration of micro, semi-micro and analytical balances where high accuracy is required.

- Supplied with certificate traceable to United Kingdom Accreditation Service (UKAS)
- Calibration carried out in accordance with the requirements of ISO9002
- Shape conforms with OIML standard

Individual weights
OIML class E2. Complete with UKAS traceable certificate. Weights 1mg to 5mg are aluminium. Weights 10mg to 20kg are highly polished, stainless steel. Supplied in a plastic box with handling glove or tweezers as appropriate.

BD905-10	1mg	*BD905-40*	1g
BD905-12	2mg	*BD905-43*	2g
BD905-16	5mg	*BD905-46*	5g
BD905-19	10mg	*BD905-49*	10g
BD905-22	20mg	*BD905-52*	20g
BD905-25	50mg	*BD905-55*	50g
BD905-28	100mg	*BD905-58*	100g
BD905-32	200mg	*BD905-62*	200g
BD905-35	500mg		

Weight sets
OIML class E2. Complete with UKAS traceable certificate. Sets are highly polished stainless steel (weights 1mg to 5mg are aluminium). Supplied in a box with handling glove or tweezers as appropriate.

BD907-14 1mg to 500mg
BD907-16 1mg to 100g
BD907-26 1g to 1kg

Weight re-calibration vouchers

For re-calibration of class F1 or E2 weights or sets, as indicated, by our associated calibration laboratory. This includes the issue of one UKAS-traceable certificate per weight or set. The voucher will be issued with a unique identification code and this voucher must be included with the weight (set) when sent back to the calibration laboratory. The return cost (within the UK*) after calibration is included in the voucher price.

Re-calibration voucher for one individual OIML class E2 weight within the range as indicated.

BD950-10 1mg up to 200g

Re-calibration voucher for one individual OIML class F1 weight within the range as indicated.

BD950-40 1mg up to 500g
BD950-50 1kg up to 10kg

Re-calibration voucher for individual OIML class E2 weight sets (based on 1-2-2-5 composition) as indicated.

BD954-05 Set 1mg to 500mg (12 weights)
BD954-13 Set 1mg to 100g (21 weights)

Re-calibration voucher for individual OIML class F1 weight sets (based on 1-2-2-5 composition) as indicated.

BD954-30 Set 1mg to 500mg (12 weights)
BD954-35 Set 1mg to 100g (21 weights)
BD954-45 Set 1g to 1kg (13 weights)
BD954-51 Set 1g to 2kg (14 weights)
BD954-57 Set 1g to 5kg (16 weights)
BD954-63 Set 1g to 10kg (17 weights)

*For destinations outside the UK, please request a quotation.

Re-calibration of other class E2 and F1 weights is available - *details on request.*

Calibration Weights, DAkkS (DKD)

A competitively priced range of precision weights and weight sets conforming and certified to OIML Class F1.

- Supplied with certificate issued under the supervision of DAkkS (formerly DKD) , the German national calibration authority and is accepted as having full authority by UKAS under the European co-operation for Accreditation of Laboratories (EAL).

Individual Weights
OIML Class F1. Complete with DAkkS traceable certificate. Weights 1mg to 50mg are aluminium, weights 100mg to 500mg are nickel-silver. Weights 1g to 20kg are highly polished, non-magnetic stainless steel and supplied in a plastic box.

BD912-10	1mg	*BD912-49*	10g
BD912-12	2mg	*BD912-52*	20g
BD912-16	5mg	*BD912-55*	50g
BD912-19	10mg	*BD912-58*	100g
BD912-22	20mg	*BD912-62*	200g
BD912-25	50mg	*BD912-65*	500g
BD912-28	100mg	*BD912-68*	1kg
BD912-32	200mg	*BD912-72*	2kg
BD912-35	500mg	*BD912-75*	5kg
BD912-40	1g	*BD912-78*	10kg
BD912-43	2g	*BD912-82*	20kg
BD912-46	5g		

Weight Sets
OIML Class F1. Complete with DAkkS traceable certificate. Weights up to 50mg are aluminium, weights 100mg to 500mg are nickel-silver. Weights 1g to 10kg are highly polished, non-magnetic stainless steel. Supplied in a wooden box.

BD918-10 1mg to 500mg
BD918-13 1mg to 100g
BD918-18 1g to 1kg
BD918-22 1g to 2kg
BD918-26 1g to 5kg
BD918-30 1g to 10kg





Barometers

Analogue

Analogue Barometer/Weather station
Indoor use. Bench or wall-mounting, with three, 45mm diameter dials. From top to bottom these indicate humidity (scaled 0 to 100% RH), atmospheric pressure (scaled 970 to 1050hPa x 1hPa) and temperature (scaled -20 to +60°C), respectively. Overall 55 x 33 x 165mm W x D x H. Weight 130g.

BF105-40 Analogue barometer/ weather station

Analogue Barometer/Weather station
Outdoor use. Wall-mounting, aluminium/glass housing with rain shield. 3-dial white face with main dial indicating atmospheric pressure from 960 to 1040hPa x 1hPa and smaller subsidiary dials indicating temperature from -40 to +60°C x 1°C and humidity from 0 to 100%RH x 1%RH, respectively. Overall 145 x 70 x 215mm W x D x H. Weight 500g.

BF105-60 Analogue barometer/ weather station

Hygrometers – *see HY160 to HY650-series.*

NOTE
Atmospheric pressure is now commonly measured in the metric unit of hPa (hectoPascals). 1hPa = 1mb.

Aneroid

Aneroid Barometer
Dual scaled 940 to 1060hPa x 1hPa and 71 to 80cm x 0.1cm. Brass finish case 100mm diameter. With manually adjustable pointer, to aid pressure trend indication, and hanging ring.

BF108-15 960 to 1060hPa

Cup Anemometer
A portable hand-held instrument providing a direct reading of wind speed in four different units. With plastic outer case and cups and engraved scales. Ranges 0 to 120km/h, 0 to 35 m/s, 0 to 12 Beaufort, 0 to 60 kt.

AN450-10 Anemometer

Anemometer, vane
Portable, hand-held vane-type anemometer and thermometer for outdoor applications.

Ranges:-

Wind speed: 0.2 to 30m/s (alternative ranges: Beaufort scale, knots, km/h)

Temperature: –30 to +60°C (alternative range: –22 to +140°F)

Other functions include maximum and average wind speed, and Windchill temperature calculation. Overall 98 x 39 x 17mm L x W x D. Weight 110g. In splash-resistant case and supplied with soft carrying case, lanyard and batteries.

AN450-40 Vane anemometer
BL590-25 Spare battery, 3V

Digital

Digital Barometer/Weather station
With 5 line LCD display indicating temperature (indoor, and outdoor using radio communication sensor supplied) with Max/Min facility, indoor humidity, barometric pressure with graphic icon indication of next 24 hours weather, pressure development profile for the previous 48 hours shown in a bar chart format, storm warning indicator, clock with time zone adjustment, date, month and year calendar. Wall or desk mounting. Overall 180 x 100 x 35mm H x W x D (display unit), 160 x 43 x 28mm (remote sensor). Supplied with batteries.

- Ranges
  - 970 to 1030hPa x 0.1hPa
  - –40 to +60°C (–40 to +140°F) outdoor –10 to +60°C (+14 to +140°F) indoor
  - 1 to 99%RH

BF107-40 Digital Barometer/ Weather station

Accessories
BL610-08 Battery, AAA, 1.5V (2 required for sensor)
BL610-15 Battery, AA, 1.5V (3 required for display module)

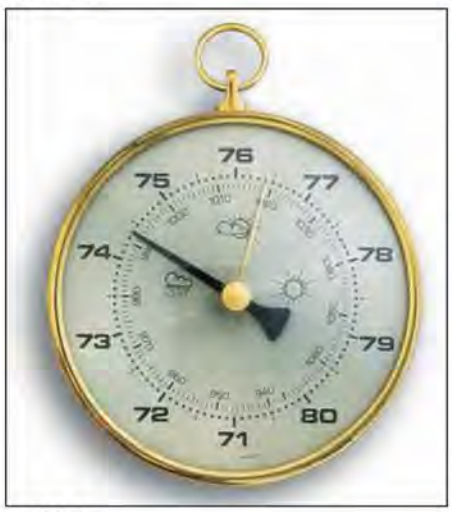

BF105-40



BF107-40


AN450-10


BF105-60



BF108-15


AN450-40

Basins

Glass

All dimensions and capacities are nominal.

Evaporating
Pyrex 1450 series, flat bottom, curved sides, with spout.

	Ref. 1450	Cap. ml	Dia. x Ht. mm
BF500-10	/01	15	50 x 25
BF500-15	/03	45	60 x 30
BF500-20	/04	90	80 x 45
BF500-25	/06	170	95 x 55
BF500-30	/10	320	115 x 65
BF500-35	/14	600	140 x 80

Evaporating
Pyrex 1470 series, flat bottom, cylindrical, without spout.

	Ref. 1470	Cap. ml	Dia. x Ht. mm
BF505-10	/02	100	70 x 40
BF505-15	/04	150	80 x 45
BF505-20	/08	300	95 x 55
BF505-25	/10	500	115 x 65
BF505-30	/12	900	140 x 75
BF505-35	/16	2000	190 x 90

Metal

All dimensions and capacities are nominal.

Aluminium
Round bottom, with spout.

	Cap. ml	Dia. x Ht. mm
BF550-15	130	80 x 40

Nickel
Flat bottom, with drop-on cover with knob.

	Cap. ml	Dia. x Ht. mm
BF570-10	40	60 x 16
BF570-15	95	90 x 16

Platinum (97%) - Iridium (3%)
Flat bottom. Approximate weights are 50ml, 22g and 90ml, 32g.

	Cap. ml	Dia. x Ht. mm
BF585-12	50	60 x 30
BF585-19	90	70 x 35

Dressing Containers, with lids

	Cap. ml	Dia. x depth, mm
MF325-26	700	100 x 100
MF325-42	2500	150 x 150

Instrument Boxes, with lid

	L x W x D, mm	Cap., ml
MF430-17	200 x 100 x 50	1000
MF430-27	220 x 120 x 50	1300
MF430-37	300 x 220 x 50	3300

Glass Dishes
Instrument –*see Boxes section.*

Metal Dishes
Foil – *see Dishes section.*

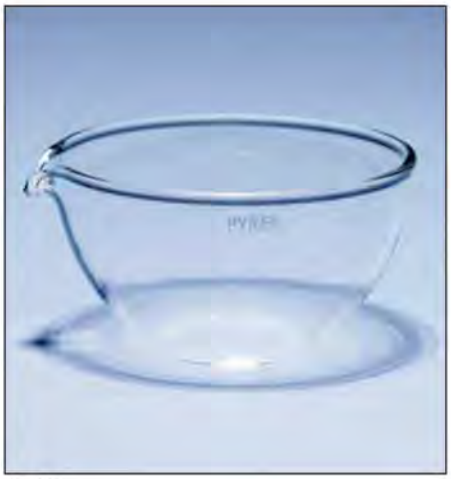
Instrument – *see Medical section.*

Kidney – *see Medical section.*

Trays – *see Trays section.*

Plastic Dishes
Petri – *see Petri dish section.*

Photographic – *see Dishes section.*



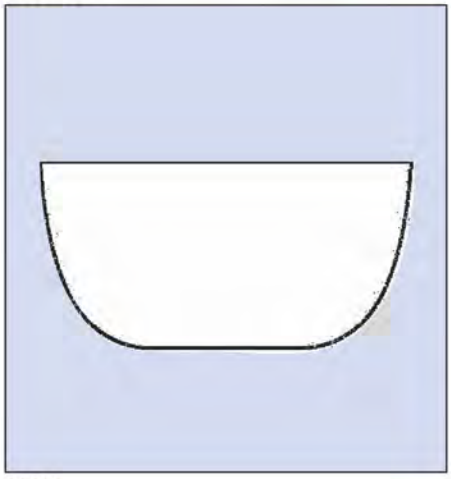
BF500


BF550/570


MF325



BF505


BF585


MF430

Basins

Porcelain Basins

All dimensions and capacities are nominal.
Maximum operating temperature 1000°C.

Evaporating
Round bottom, shallow form, with spout.

	Cap. ml	*Dia. x Ht. mm*
BF662-12	35	63 x 25
BF662-14	50	70 x 28
BF662-18	75	80 x 32
BF662-22	95	85 x 35
BF662-28	170	105 x 42
BF662-33	285	125 x 50
BF662-37	420	150 x 55
BF662-46	1000	200 x 80

Note:
BF662-12 to BF662-33 are glazed except rim. BF662-37 to BF662-46 are glazed except outside base.

Evaporating
Round bottom, deep form, with spout.

	Cap. ml	*Dia. x Ht. mm*
BF667-12	50	70 x 34
BF667-17	150	97 x 50
BF667-19	250	110 x 52

Evaporating
Flat bottom, shallow form, with spout.

	Cap. ml	*Dia. x Ht. mm*
BF678-12	20	63 x 13
BF678-18	45	80 x 16
BF678-24	100	100 x 20
BF678-32	260	125 x 25
BF678-36	520	160 x 40

Ignition Capsule
Flat bottom, deep form, without spout. Capacity 20ml. Diameter 40mm. Height 20mm.

BF685-25 Capsule

Casserole
With handle and spout. Capacity 140ml. Diameter 80mm. Height 45mm.

BF690-30 Casserole

Silica Basins

All dimensions and capacities are nominal.
Maximum operating temperature 1050°C (1300°C for short periods).

Shallow form
Translucent, glazed with spout.

	Cap. ml	*Dia. x Ht. mm*
BF802-10	20	55 x 23
BF802-15	45	75 x 27
BF802-20	70	87 x 33
BF802-25	100	100 x 38

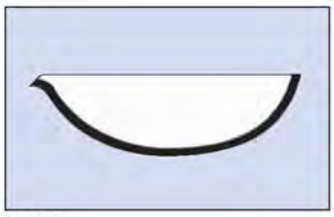
Deep form
Translucent, glazed, with spout. Capacity 90ml. Dia 80mm x Ht 45mm.

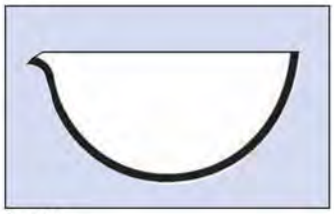
BF807-20 Deep

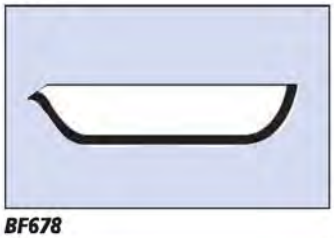
Flat form
Translucent, glazed, with spout.

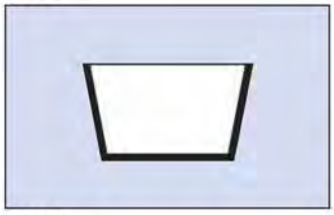
	Cap. ml	*Dia. x Ht. mm*
BF812-10	25	79 x 15

Silica trays – *see Trays section.*

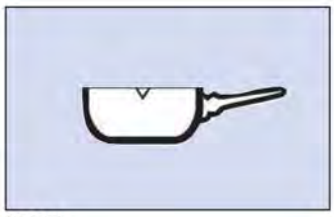

BF662

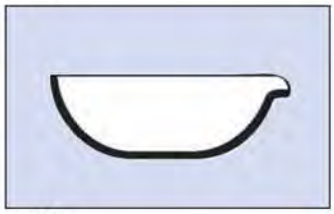

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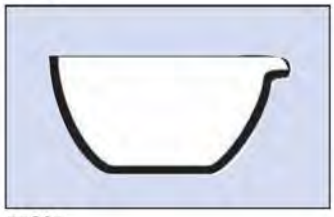

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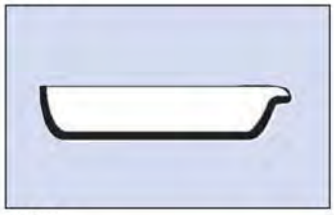

BF685




BF690


BF802


BF807


BF812

Baskets, Baths

Baskets

For holding a wide variety of small glassware and plasticware.

Cylindrical with handle

	Dia. x Ht.
Nylon coated wire	
BG200-20	180 x 160mm

Rectangular

	L x W x H
Nylon coated wire	
BG225-10	100mm cube
BG225-15	125mm cube
BG225-20	150mm cube
BG225-30	200mm cube
Stainless steel wire	
BG230-10	100mm cube
BG230-15	125mm cube
BG230-20	150mm cube
BG230-30	200mm cube
Polypropylene tapered for stacking	
BG235-10	143 x 120 x 109mm
BG235-20	162 x 162 x 155mm
BG235-30	225 x 225 x 230mm

Boiling Water Baths

With concentric rings to support a wide range of flasks.

Bath, Circular

Stainless steel, with integral 1kW heating element, connector with cable, constant level and set of concentric rings. For 220-240V a.c. single phase supplies.

	Dia. x depth
BH105-14	203 x 127mm

Baths, Rectangular

Stainless steel, with integral heating element, connector with cable, constant level and set of concentric rings. All baths are 90mm deep. Maximum hole diameter 76mm except BH120-12 which is 108mm. For 220-240V a.c. single phase supplies; rating 1kW.

	Places	*L x W*
BH120-08	6	321 x 216mm
BH120-12	6	425 x 321mm
BH120-16	12	425 x 321mm

BH125-15	Spare element, 1kW, for BH105 and 120 series
BH125-40	Energy regulator for BH105 and 120 series. For 220-240V single phase supplies

Sand Baths

Baths, Circular, sand

For mounting on electric hotplate or a tripod with gas burner. Cylindrical, tinned iron, flat bottom with parallel sides.

	Max. dia. x depth
BH130-15	198 x 38mm

Heaters For BH130 series.

Electric – *see Hotplates section.*

Gas – *see Burners section.*

Tripods – *see Stands section.*

Power Controllers For use with electrically heated baths to control energy input. Bimetal and solid state models. With fitting for retort rod mounting – *see EE500 series in the Electrical section.*

Fluidised Baths, for high temperature applications – *see BK502/512 series.*

Block Thermostats, for dry heating of Eppendorf and test tubes – *see BK205/340 series.*



BG200



BH105



BH120 series



BG225 *BG230* *BG235*



BH130 in use

Unstirred Thermostatic Water Baths

A range of robust, general purpose, unstirred water baths for routine applications.

- Temperature range ambient +5°C to 99.9°C
- 6, 15 or 24 litre capacities
- Digital display and temperature selection with recessed controls
- Low level water sensor
- Stainless steel tanks with heating under base
- Integral drain for easy emptying
- Supplied with moulded, transparent, polycarbonate lid

Dimensions

Cap. litres	*Internal L x W x D mm*	*Overall L x W x D mm*	*Weight kg*
6	300 x 150 x 200	335 x 270 x 280	6.5
15	300 x 325 x 200	335 x 408 x 280	9.0
24	300 x 500 x 200	335 x 584 x 280	12.8

Water Baths, Unstirred

With stainless steel tanks and polycarbonate lids. Maximum temperature 99.9°C. Temperature stability ±0.5°C. For 230V 50Hz single phase supplies.

BH170-10 SWB6D, 6 litres
BH170-20 SWB15D, 15 litres
BH170-30 SWB24D, 24 litres

Spare Polycarbonate lids

BH176-10 For 6 litre bath
BH176-20 For 15 litre bath
BH176-30 For 24 litre bath

Spheres

Polypropylene, 20mm diameter. Supplied in pack of 300. Packs required to provide a single layer.

6 and 15 litre baths – 1 pack
24 litre bath – 2 packs

BJ177-03 Spheres

Shaking Water Bath

- Temperature range ambient +5°to 99.9°C
- Temperature stability ±0.5°C
- Hydraulic safety thermostat
- Press-set and read electronic thermostat with LED display
- Orbital or linear movement dictated by accessory trays
- Variable speed 20 to 200rpm with analogue dial setting
- Stroke: 16mm (orbital or linear)
- Controls recessed into exterior case

Shaking Water Bath

Capacity 24 litres, stainless steel tank. Maximum temperature 99.9°C. With digital electronic thermostat and safety thermostat. Variable shaker speed 20 to 200rpm. Internal 500 x 300 x 200mm (L x W x D). External 580 x 335 x 330mm (L x W x D). Weight 17kg. For 230V 50Hz single phase supplies, 1400W. Requires accessory tray (not included).

BH180-20 Shaking bath SBS40

Accessories for BH180-20

Trays and Lid

Stainless steel, with network of cross-springs allowing different sizes and shapes of vessel to be shaken at the same time. Typically hold 8 x 250ml, 6 x 500ml or 4 x 1litre conical flasks. Tray type dictates shaking action.

BH180-44 Orbital motion tray
BH180-72 Linear motion tray
BH168-20 Gabled lid, stainless steel

Test tube racks

Stainless steel. For attachment to BH180-44/-72 trays which hold two racks only. For tubes number x o.d. as indicated.

	Ref.	For tubes
BH180-74	SBS40/5	143 x 1.5ml microtubes
BH180-77	SBS40/6	120 x 13mm
BH180-80	SBS40/7	72 x 16mm
BH180-83	SBS40/8	56 x 15ml centrifuge tubes
BH180-86	SBS40/9	30 x 26mm
BH180-89	SBS40/10	25 x 50ml centrifuge tubes



BH170 in use



BH180 in use



BH180 trays in use



BH180 racks in use

NE4 Series Stirred Thermostatic Water Baths

Clifton

- Choice of models:

-D: Stirred water baths featuring bridge-mounted thermoregulator with digital setting and display, 0-999 minute timer, with powerful heater and stirrer, stainless steel tank and sturdy, powder-coated, chemically-resistant outer cases.

-P: Generally as -D models but with pump for external circulation of temperature controlled liquids, providing a flow rate (using water) of 10 litres/minute in closed circuits.

- Operating range: ambient +5°C to +99°C* (-20°C achievable with accessory cooling)
- Sensitivity ±0.1°C
- Uniformity ±0.01°C
- Safety features include user-resettable low liquid level safety cut-out and audible overtemperature alarm
- Removable, perforated false base aids circulation and improves temperature uniformity

Dimensions

Model	*Capacity litres*	*Working space W x D x H mm*	*Overall W x D x H mm*
NE4-8D/-8P	8	129 x 298 x 150	271 x 332 x 170
NE4-14D/-14P	14	219 x 298 x 150	361 x 332 x 170
NE4-22D/-22P	22	395 x 298 x 150	537 x 332 x 170
NE4-28D/-28P	28	395 x 298 x 200	537 x 332 x 240

Stirred water baths, NE4-D series

Maximum temperature 99°C*. With user resettable safety cut-out device and bridge-mounted thermoregulator. For 230V 50Hz single phase supplies, 1250W.

	Ref.	*Litres*
BH206-12	NE4-8D	8
BH206-19	NE4-14D	14
BH206-24	NE4-22D	22
BH206-28	NE4-28D	28

Stirred water baths, NE4-P series

Maximum temperature 99°C*. With user resettable safety cut-out device and bridge-mounted thermoregulator. For 230V 50Hz single phase supplies, 1250W.

	Ref.	*Litres*
BH207-10	NE4-8P	8
BH207-15	NE4-14P	14
BH207-18	NE4-22P	22
BH207-26	NE4-28P	28

Thermoregulators

Thermostatic control units only, without tank or bridge mounting plate. Can be used on any tank with a maximum wall thickness of 30mm in conjunction with mounting bracket BH208-09.

BH208-04	NE4-D, digital
BH208-06	NE4-P, digital with pump
BH208-09	Mounting bracket for above thermoregulators

*At temperatures above 60°C a lid should be fitted or a layer of polypropylene spheres

Accessories

Stainless steel racks

	Holes
SM390-12	36 x 13mm
SM390-16	26 x 17mm
SM390-19	18 x 19mm
SM390-25	16 x 26mm

Max number of racks per bath

Bath Capacity	*Racks*
8 litres	1
14 litres	2
22/28 litres	5

Gabled lids, stainless steel

	For bath
BH208-77	8 litre
BH208-79	14 litre
BH208-82	22/28 litre

Flat lids, stainless steel

	For bath
BH208-86	8 litre
BH208-89	14 litre
BH208-93	22/28 litre

Raised shelves

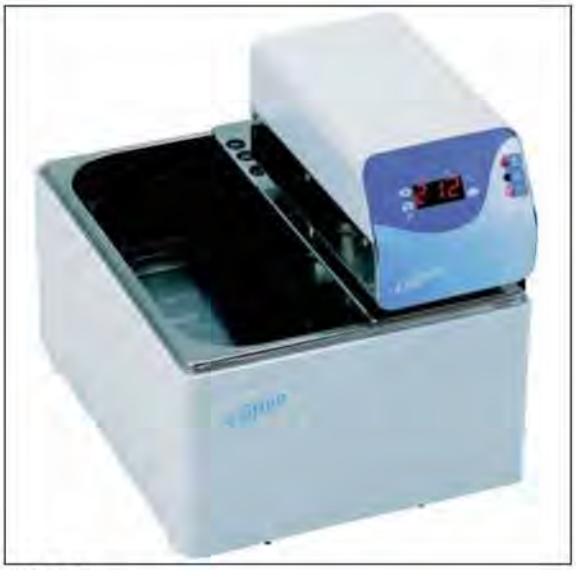
	For bath
BH208-95	14 litre
BH208-96	22/28 litre

Thermometer Clip

Fits flush with the bath top without obstructing the lid. With spirit-filled, right angle thermometer, range 0 to 100°C x 2°C.

BH208-99 Thermometer clip

Polypropylene spheres - *see BJ177-03*



BH206-12



BH207-18 with SM390 and BH208-96 in use

Unstirred Thermostatic Water Baths

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PB units have heaters and a temperature sensor in the base of the tank, covered by a perforated tray leaving the working space unobstructed.

Heater and temperature sensors for the JB Aqua Plus and SUB Aqua Plus units are bonded to the underside of the tank, optimising working space and temperature uniformity. They are supplied with clear polycarbonate, gabled lids to minimise evaporation and energy loss (except BJ159-34) and a polycarbonate base tray to promote heat convection and optimise temperature uniformity. SBB Aqua Plus units are similar, but the heater is located inside the stainless steel tank and covered by a stainless steel, perforated shelf.

PB1 Bath, ambient to 60°C
A transparent polycarbonate tank and a removable control unit at one end. Without lid. The thermostat dial is graduated in 5°C divisions from 20° to 60°C. Stability at 37°C (DIN 58966) ±0.3°C.

JB Aqua Plus Baths, ambient +5˚C to 98°C
Stainless steel tanks in outer cases of painted zinc-treated steel (12 to 26 litre capacity tanks are additionally fitted with drain taps). The thermostat dial is graduated in 2˚C divisions from 20° to 90°C with a removable setting knob to allow recalibration. With adjustable overtemperature cut-out to protect against control failure and a fixed thermal cut-out which guards against accidental dry running or failure of both control systems. An alarm light illuminates if the cut-out operates. Stability at 37°C (DIN 58966) ±1.0°C.

SUB Aqua Plus Baths, ambient +5˚C to 99°C
Stainless steel tanks in outer cases of painted zinc-treated steel (12 to 34 litre capacity tanks are additionally fitted with drain taps). Digital PID temperature control with simple push-button setting and wide-angled LED display, indicating the status of heating; increasing, cooling, or steady, 3 programmable temperature presets, front panel lock-out to prevent accidental adjustment to settings and 0 to 999 minute countdown timer with audible alarm at end of timed period. With adjustable dial setting, overtemperature cut-out and separate, fixed, thermal cut-out. The user can also calibrate the bath at one or two points to optimise uniformity. Stability at 37°C (DIN 58966) ±0.2°C.

SBB Aqua Plus Baths for Boiling, 100°C
As SUB Aqua Plus baths but with an analogue energy regulator in place of the thermostat. Boiling can be maintained without violent agitation or excessive steam. Two fixed overtemperature cut-outs are fitted for safety. A constant level device and non-drip polycarbonate lid are provided. These baths must be used with a lid or a layer of polypropylene spheres.

Specifications

Model	*litres*	*Working space L x W x D mm*	*Rack series accepted*	*Lid accepted*
PB1	3.5	225 x 120 x 80	3 x P1	LP1
JB-/SUB Aqua 2 Plus	2	125 x 140 x 115	—	AQL2
JB-/SUB Aqua 2S Plus*	2	145 x 290 x 30	—	AQL5
JB-/SUB Aqua 5 Plus	5	145 x 290 x 115	1 x J2	AQL5
JB-/SUB Aqua 12 Plus	12	315 x 290 x 115	2 x J2	AQL12
JB-/SUB Aqua 18 Plus	18	495 x 290 x 115	3 x J2	AQL26
JB-/SUB Aqua 26 Plus	26	495 x 290 x 165	4 x J2	AQL26
SUB Aqua 34 Plus	34	630 x 290 x 160	6 x J2	LU36
JB-/SUB Aqua Dual Plus†	5 and 12	145 x 290 x 115+ 315 x 290 x 115	1 and 2 x J2	AQL5 and AQL12

*Low-form, shallow baths for use with microtubes and small vessels.
† Dual bath models for two-temperature procedures. With separate tanks and lids.

Water Baths, Grant, unstirred
As specified. For 230V 50Hz single phase supplies.

Ambient to 60°C
BJ150-10 PB1, 0.3kW

Analogue control, ambient + 5˚C to 98°C
BJ154-02 JB Aqua 2 Plus, 0.13kW
BJ154-04 JB Aqua 2S Plus, 0.375kW
BJ154-05 JB Aqua 5 Plus, 0.375kW
BJ154-12 JB Aqua 12 Plus, 0.77kW

BJ154-18 JB Aqua 18 Plus, 1.5kW
BJ154-26 JB Aqua 26 Plus, 1.5kW
BJ154-40 JB Aqua Dual Plus, 1.2kW

Digital control, ambient + 5˚C to 99°C
BJ159-02 SUB Aqua 2 Plus, 0.13kW
BJ159-04 SUB Aqua 2S Plus, 0.375kW
BJ159-05 SUB Aqua 5 Plus, 0.375kW
BJ159-12 SUB Aqua 12 Plus, 0.77kW

BJ159-18 SUB Aqua 18 Plus, 1.5kW
BJ159-26 SUB Aqua 26 Plus, 1.5kW
BJ159-34 SUB Aqua 34 Plus, 2.1kW
BJ159-40 SUB Aqua Dual Plus, 1.2kW

Analogue control, for Boiling
BJ162-05 SBB Aqua 5 Plus, 1.5kW
BJ162-12 SBB Aqua 12 Plus, 1.5kW
BJ162-18 SBB Aqua 18 Plus, 2.0kW
BJ162-26 SBB Aqua 26 Plus, 2.0kW

BJ150 in use with racks





BJ162-18



BJ154 series, BJ162 are similar



BJ159 series

Unstirred Thermostatic Water Baths

Grant
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Accessories

Lids, sloping

BJ175-02	AQL2
BJ175-03	LP1
BJ175-05	AQL5
BJ175-11	AQL12
BJ175-26	AQL26
BJ175-40	LU6
BJ175-42	LU14
BJ175-44	LU28
BJ175-46	LU36

Lids, flat with ring sets

Giving apertures of 31, 43, 59, 78, or 105mm diameter.

	Ref.	Holes	For bath
BJ176-20	LF6	2	JB/SUB/SBB Aqua 5/Dual Plus
BJ176-22	LF14	4	JB/SUB/SBB Aqua12/Dual Plus
BJ176-24	LF28	6	JB/SUB/SBB Aqua18/26 Plus
BJ176-26	LF36	8	SUB Aqua 34 Plus

Spheres

Polypropylene, 20mm diameter. Supplied in pack of 300. Packs required to provide a single layer.

2 to 16 litre and dual tank baths	– 1 pack
18 to 26 litre and Dual baths	– 2 packs
34 litre baths	– 3 packs

BJ177-03 Spheres

Raised Shelves

Stainless steel with perforated mesh shelf. Used to alter the effective depth of the bath. Each occupies half the area of the bath specified and so allows both deep and shallow vessels to be accommodated.

	Ref.	For bath
BJ177-25	RS14H	JB/SUB/SBB Aqua 12/-Dual Plus
BJ177-28	RS18H	JB/SUB/SBB Aqua 18 Plus
BJ177-30	RS28H	JB/SUB/SBB Aqua 26 Plus
BJ177-35	RS36H	SUB Aqua 34 Plus

Racks, Stainless Steel

P1 racks for the PB1 bath only hang from the tank rim, and have a single row of holes so that the contents can be examined through the transparent sides of the tank.

J2 racks for the JB/SUB/SBB Aqua Plus baths, stand on the perforated shelf of the bath, or on the floor of the tanks.

	Ref.	Holes
BJ178-04	P1-13	12 x 13mm
BJ178-08	P1-16	10 x 16mm
BJ178-12	P1-19	9 x 19mm
BJ178-16	J2-10	84 x 10mm
BJ178-20	J2-13	55 x 13mm
BJ178-24	J2-16	36 x 16mm
BJ178-28	J2-19	32 x 19mm
BJ178-32	J2-25	18 x 25mm
BJ178-36	J2-30	12 x 30mm

For microcentrifuge tubes

BJ178-80	J2-SE	105 x 0.5ml
BJ178-82	J2-LE	65 x 1.5ml

Bains Marie – *see BH105/108 series.*

Fluidised baths, for high temperature applications – *see BK502/512 series.*



BJ177-03 in use



BJ177-30 in use



BJ178 in use



BJ175-46 with BJ159-34



BJ178 in use within BJ162-12

Optima Series

Grant
IN THE LABORATORY

A comprehensive, modular family of thermostatic controllers, bath tanks and accessories providing a wide range of specifications to meet the majority of laboratory requirements. Sophisticated electronics and the latest materials combine to ensure optimum performance, accuracy and stability.

- Choice of four thermostatic controller levels with digital programming
- Choice of plastic (P) or stainless steel (S) tanks
- Temperature scope of range -15 to +200°C depending on controller, bath and accessory cooling chosen (TX150 and TXF200 controllers can operate down to -50°C if required)
- Stirred circulation provides good temperature stability and uniformity
- Accessory Labwise™ control software allows remote programming, datalogging and real-time graphing of programmable models
- Digital and programmable controllers feature a novel, soft-touch navigator rotor and push-buttons for menu selection and operation

Safety feature include:

- Low liquid protection by float switch
- Visual alarm (and audible - digital and programmable controllers)
- Fixed (T100), or user-adjustable, overtemperature cut-out (TC120, TX150, TXF200 models only)

Thermostatic controllers have an injection moulded case, with heater, stirrer, pump (if provided) and Pt1000 temperature sensor projecting down into the liquid.

Lids are available as accessories. At temperatures below ambient or above +60°C to 100°C a lid should be fitted, or a layer of polypropylene spheres used. Above 100°C only a lid must be used.

Labwise™ control software, available as an accessory for TX150 and TXF200 controllers, can be used to set all parameters, including programmes, via the users' PC running Windows™ software and in English, French, German, Spanish or Italian languages. It also features real-time status windows, a graphical display of the controllers performance during a run, and allows data to be logged for future recall and analysis.



Optima Series Thermostatic Controllers

Grant
IN THE LABORATORY

Each controller is supplied without clamp. An accessory clamp (BJ180-95) allows the controller to be used with almost any type of vessel where it can be attached to the vessel wall. When the controller is to be used with Optima bath tanks the clamp is unnecessary as a bridge plate is provided.

Model			T100	TC120	TX150	TXF200
Temperature ranges†	*without tank*	°C	0 to 100*	-20 to 120*	-50 to 150*	-50 to 200*
	using S tanks	°C	0 to 100*	0 to 120*(5/12/18L) -15 to 120* (26/38L)	0 to 150* (5/12/18L) -15 to 150* (26/38L)	0 to 200* (5/12/18L) -15 to 200* (26/38L)
	using P tanks	°C	ambient +15 to 99 — TC120-P5/TX150-P5/TXF200-P5, ambient +5 to 99 — rest of range			
Stability, S tanks (DIN 58966)	*@ 70°C*	±°C	0.05	0.05	0.01	0.01
Uniformity, S tanks	*@ 70°C*	±°C	0.1	0.1	0.05	0.05
Setting resolution		°C	0.1	0.1	0.1 (0.01 using Labwise)	0.1 (0.01 using Labwise)
Display			4 digit LED	4 digit LED	Full colour QVGA TFT	Full colour QVGA TFT
Display resolution		°C	0.1	0.1	0.01	0.01
No. of stored temperature values			3	3	3	3
Two point re-calibration			yes	yes	yes	yes
Offset adjustment			no	no	yes	yes
External probe socket			no	no	yes	yes
USB interface			no	no	yes	yes
Programmable			no	no	yes via PC	yes via PC/direct
No. of stored programmes			none	none	1 x 30 segment	10 x 100 segment
Relays			none	none	1	2
Heater power, 220-240V		*kW*	1.3	1.3	1.9	1.9
Pump (water)	*max. pressure*	*mbar*	no pump	210	310	530
	max. flow	*L/min*	no pump	16	18	23 adj. flow rate
Inlet/outlet	*pipe bores*	*mm*	n/a	6/11	6/11	6/11
Overall dimensions, excluding clamp		*mm*	115 x 145 x 315 W x D x H — all models			
Height above tank rim		*mm*	200 — all models			
Depth below tank rim		*mm*	135 — all models			

†A lid or layer of polypropylene spheres must be used when operating between 60°C and 100°C, and is recommended for use below room temperature. Above 100°C, a lid must always be used.

*Minimum operating temperature without accessory cooling is ambient plus 5°C, except in the 5 litre tanks, in which it is ambient plus 15°C. Minimum and maximum temperatures achievable are dependent upon the tank insulation and the minimum operating temperature depends on the accessory immersion cooler selected.

continued on next page



BJ180-18



BJ180-28 in use on tank with lid



BJ180-28

Optima Series Thermostatic Controllers continued

Grant
IN THE LABORATORY

Digital model, T100
Operating range 0 to +100°C. With PID control, soft-touch rotary selector and push-button setting, LED display and simple user interface with fault indication and visual alarm. Supplied without clamp. For 230V 50/60Hz single phase supplies.

BJ180-18 T100

Digital model, TC120
Operating range -20 to +120°C. Generally as TC100 but with powerful external circulation pump, timer function for reaction timing from 0 to 9999 minutes, and variable high temperature alarm setting. Supplied with two pump connector plates with outlets for 6mm or 11mm tubing bores. Supplied without clamp. For 230V 50Hz single phase supplies.

BJ180-28 TC120

Programmable model, TX150
Operating range -50 to +150°C. Full colour QVGA TFT screen which displays actual and set temperatures, pump speed and memory icons for programming with choice of operating languages (English, French, German, Spanish and Italian). With 99 hours 59 minute timer function and heater control fault indicator, audible and visual alarms, USB interface allowing remote control via an external PC, accessory Labwise™ software, programmable relay for ancillary equipment switching during a procedure (external cooling or remote alarm for example), high/low temperature alarm setting and temperature limiting for selected liquid type. Also includes memory storage of 10 programmes each of up to 100 segments. A built-in, powerful external circulation pump is provided with two pump connection plates with outlets for 6mm or 11mm tubing bores, and a socket for an accessory external Pt1000 temperature probe. Supplied without clamp. For 230V 50Hz single phase supplies.

BJ180-37 TX150

Programmable model, TXF200
Operating range -50 to +200°C. Generally as TX150-series but with variable flow rate, external circulation pump, on-board programming facility via the control panel, including temperature ramping rate to target temperature, storage of 10 programmes, each of up to 100 segments, USB interface, and additional programmable relay for ancillary equipment switching during a procedure. Supplied without clamp. For 230V 50/60Hz single phase supplies.

BJ180-49 TXF200

Clamp
For use with BJ180-series to enable attachment of thermostatic controllers to alternative models/makes of bath (not required when used with Optima P- or ST-series tanks). The maximum vessel wall thickness is 35mm for rectangular and 30mm for circular (300mm diameter) tanks. Maximum vessel volume is 50 litres.

BJ180-95 Clamp



BJ180-18 in use on tank with lid



BJ180-37



BJ180-49



BJ180-49 in use on tank with lid

Optima Series Bath Tanks

Grant
IN THE LABORATORY

P series tanks
Cost effective, robust plastic tanks for applications in the range ambient +5°C to +99°C. Supplied with bridge mounting plate for Optima T-series controllers without clamps and carrying handles recessed into the ends of the case.

Ref.			P5	P12	P18
Tank capacity		*litres*	5	12	18
Top opening	*L x W*	*mm*	120 x 150	210 x 280	280 x 325
Liquid depth	*min/max*	*mm*	80/140	80/140	80/140
Inner tank dimensions	*L x W x H*	*mm*	240 x 160 x 150	325 x 280 x 150	510 x 290 x 150
Outer case dimensions	*L x W x H*	*mm*	330 x 240 x 180	415 x 350 x 870	600 x 365 x 180
Overall dimensions (including controller)	*L x W x H*	*mm*	390 x 200 x 360	415 x 350 x 360	600 x 350 x 360

BJ182-05 Tank only, P5
BJ182-10 Tank only, P12
BJ182-15 Tank only, P18

ST series tanks
Stainless steel tanks with outer cases of glass-reinforced plastic which has excellent insulating properties and is resistant to acids and laboratory solvents. Operating temperature ranges are as indicated. Supplied with bridge mounting plate for Optima T-series controllers and configured to allow dual-positioning, either facing along the length or away from the width of the bath, for convenient access. Also include a recessed drain tap (except 5 litre size).

Ref.			ST5	ST12	ST18	ST26	ST38
Operating range		°C	0 to 200	0 to 200	0 to 200	-15* to 200	-15* to 200
Suitable immersion cooler			C1G	C1G	C1G	C1G, C2G	C1G, C2G
Tank capacity		*litres*	5	12	18	26	38
Top opening	*L x W*	*mm*	150 x 150	205 x 300	385 x 300	385 x 300	575 x 300
Liquid depth	*min/max*	*mm*	85/140	85/140	75/130	125/180	125/180
Inner tank dimensions	*L x W x H*	*mm*	300 x 150 x 150	325 x 300 x 150	505 x 300 x 150	505 x 300 x 200	690 x 300 x 200
Outer case dimensions	*L x W x H*	*mm*	330 x 180 x 180	360 x 330 x 180	540 x 330 x 230	540 x 330 x 230	730 x 333 x 230
Overall dimensions (including controller)	*L x W x H*	*mm*	330 x 180 x 395	360 x 330 x 395	540 x 330 x 395	540 x 330 x 405	730 x 333 x 405

*Using C2G immersion cooler, BJ240-52.

BJ182-36 Tank only, 5 litres, ST5
BJ182-41 Tank only, 12 litres, ST12
BJ182-46 Tank only, 18 litres, ST18
BJ182-51 Tank only, 26 litres, ST26
BJ182-56 Tank only, 38 litres, ST38



Recessed drain tap



BJ182-10



BJ182-51

Optima Series Thermostatic Baths

Grant
IN THE LABORATORY

Complete units including plastic or stainless steel tank, bridge mounting plate and controller. Please refer to controller specifications for supply requirements. Accessory cooling as appropriate is required at low temperature. Accessory polypropylene spheres or a lid should be used at temperatures between +60 and +100°C. Above 100°C only a lid must be used.

	Ref.	Tank cap. litres	Tank material*	Temp. range °C
BJ185-48	T100-P5	5	P	ambient +5 to +99
BJ185-51	T100-P12	12	P	ambient +5 to +99
BJ185-53	T100-P18	18	P	ambient +5 to +99
BJ185-55	T100-ST5	5	S	0 to +100
BJ185-57	T100-ST12	12	S	0 to +100
BJ185-60	T100-ST18	18	S	0 to +100
BJ185-63	T100-ST26	26	S	0 to +100
BJ185-66	T100-ST38	38	S	0 to +100
BJ185-67	TC120-P5	5	P	ambient +5 to +99
BJ185-70	TC120-P12	12	P	ambient +5 to +99
BJ185-72	TC120-P18	18	P	ambient +5 to +99
BJ185-73	TC120-ST5	5	S	0 to +120
BJ185-76	TC120-ST12	12	S	0 to +120
BJ185-78	TC120-ST18	18	S	0 to +120
BJ185-80	TC120-ST26	26	S	-15 to +120
BJ185-82	TC120-ST38	38	S	-15 to +120

* P = plastic, S = stainless steel.

	Ref.	Tank cap. litres	Tank material*	Temp. range °C
BJ186-06	TX150-P5	5	P	ambient +5 to +99
BJ186-11	TX150-P12	12	P	ambient +5 to +99
BJ186-16	TX150-P18	18	P	ambient +5 to +99
BJ186-21	TX150-ST5	5	S	0 to +150
BJ186-26	TX150-ST12	12	S	0 to +150
BJ186-31	TX150-ST18	18	S	0 to +150
BJ186-36	TX150-ST26	26	S	-15 to +150
BJ186-41	TX150-ST38	38	S	-15 to +150
BJ186-46	TXF200-P5	5	P	ambient +5 to +99
BJ186-51	TXF200-P12	12	P	ambient +5 to +99
BJ186-56	TXF200-P18	18	P	ambient +5 to +99
BJ186-61	TXF200-ST5	5	S	0 to +200
BJ186-68	TXF200-ST12	12	S	0 to +200
BJ186-71	TXF200-ST18	18	S	0 to +200
BJ186-76	TXF200-ST26	26	S	-15 to +200
BJ186-81	TXF200-ST38	38	S	-15 to +200

* P = plastic, S = stainless steel.



BJ185-53



BJ186-76 in use

Optima Series - Accessories

Grant
IN THE LABORATORY

Lids

Available in moulded plastic or stainless steel, either curved, flat, or gabled with hinge as indicated.

	Ref.	For baths	Material*	Type
BJ187-62	PL5	P5	S	Flat
BJ187-64	PL12	P12	P	Curved
BJ187-66	PL18	P18	P	Curved
BJ187-67	STL5	ST5	S	Flat
BJ187-71	STL12	ST12	S	Gabled
BJ187-73	STL26	ST18/ST26	S	Gabled
BJ187-77	STL38	ST38	S	Gabled

*S = stainless steel P = moulded plastic.

Spheres provide an alternative to a lid at temperatures between +60°C and +100°C. Packs required to provide a single layer.

5 litre tank: 1 pack 18 litre tank: 2 packs 38 litre tank: 3 packs
12 litre tank: 1 pack 26 litre tank: 2 packs

Polypropylene spheres - *see BJ177-03.*

Raised shelves

These reduce the effective liquid depth to allow shallow vessels to be placed in the baths. The effective liquid depth can be between 0 and 90mm only in 12 and 18 litre baths, and between 0 and 50mm or 85 and 135mm in 26 and 38 litre baths, achieved by inverting the shelf as required.

BJ226-14 RS14 for 12 litre baths
BJ226-22 RS22 for 18 litre baths
BJ226-28 RS28 for 26 litre baths
BJ226-38 RS38 for 38 litre baths

Draining Syphon

Enables bath to be emptied quickly.

BJ242-12 Ref. SY1

Remote Temperature Probes

Pt1000 external temperature probes for use with TX150 and TXF200 thermostat controllers in remote heating/cooling applications. With 3 metres of cable.

BJ242-20 TXPEP, fast response, nylon, 100mm x 4.5mm length x dia.
BJ242-25 TXSEP, robust, stainless steel, 125mm x 5mm length x dia.

Tube Racks

Stainless steel, with lifting handles, available for 10 to 13mm, 16 to 19mm or 24mm o.d. test tubes, 0.5ml or 1.5ml microcentrifuge tubes. QR racks can only be used with 5 litre baths. VR racks can be used with 12, 18, 22, 26 and 38 litre baths.

Maximum number of racks per bath:

5 litre: 1 x QR 18 litre: 4 x VR 38 litre: 6 x VR
12 litre: 2 x VR 26 litre: 4 x VR

Maximum number of tubes per rack

Tube dia. mm	VR	QR	Tube dia. mm	VR	QR
10 - 13	65	30	24	23	10
16 - 19	36	16	30	14	5

QR-series for 5 litre Baths only

	Ref.	Holes
BJ188-10	QR-13	30 x 10/13mm
BJ188-13	QR-19	16 x 16/19mm
BJ188-16	QR-24	10 x 24mm
BJ188-18	QR-30	5 x 30mm
BJ188-20	QR-SE	44 x 0.5ml microtubes
BJ188-23	QR-LE	35 x 1.5ml microtubes

VR-series for 12, 18, 26 and 38 litre baths only

	Ref.	Holes
BJ188-30	VR-13	65 x 10/13mm
BJ188-33	VR-19	36 x 16/19mm
BJ188-36	VR-24	23 x 24mm
BJ188-38	VR-30	14 x 30mm
BJ188-40	VR-SE	102 x 0.5ml microtubes
BJ188-43	VR-LE	75 x 1.5ml microtubes

Labwise software

Allows remote set-up and programming of the TX150 and TXF200 thermostat controllers from the users' PC, real-time temperature/time profiles and graphical representation of process to be displayed, logging of profiles and programme storage to disk. Requires Windows™ software. Supplied with connection cable.

BJ189-75 Labwise software

continued on next page



BJ187-71



BJ188 and BJ226 in use



BJ189-75

Optima Series Bath Cooling Systems

Water-cooled and refrigerated systems are available. Both systems have a coil which can be placed under the heater/stirrer unit in 12, 18, 26 and 38-litre baths, so that the working space is not reduced.

Water Coil CW5
For use with mains tap water, suitable for all applications where the required temperature is 2°C or more above that of the tap water used.
BJ240-10 Ref. CW5

Refrigerated Coolers, C1G and C2G

- R134a CFC-free refrigerant

Catalogue No.			***BJ240-32***	***BJ240-52***
Model			C1G	C2G
*Liquid temp. range**		°C	0 to +40	-20 to +40
Extraction rate	*at 20°C*	*W*	350	400
	at 0°C	*W*	110	320
	at -10°C	*W*	—	170
Power consumption		*W*	300	500
Case L x W x H		*mm*	460 x 305 x 225	460 x 305 x 225
Coil diameter x length		*mm*	77 x 55	77 x 105
Flexible pipe length		*mm*	925	925

*Note: C1G and C2G will achieve the lowest specified temperatures provided they are used with a well insulated bath. Please refer to the tank specification table for information on the lowest operating temperature for Optima baths.

Refrigerated Cooler, C1G
For use with all Optima baths over the range 0 to +40°C. For 220-240V 50Hz single phase supplies.
BJ240-32 Model C1G

Refrigerated Cooler, C2G
For use with all Optima baths over the range –20 to +40°C*. A bath lid must be used below 0°C in order to achieve optimum performance. For 220-240V 50Hz single phase supplies.
BJ240-52 Model C2G



BJ240-32, BJ240-52 is similar

Refrigeration Units

- Choice of model ranges:-
  - — Minimum operating temperatures: -20°C, -30°C, -47°C
  - — Tank volumes: 5 litres, 12 litres, 20 litres
- Rapid cool down
- All units supplied with bridge plate for Optima T-series controller, removable tank lid, and removable front grille for easy compressor cleaning
- Liquid drain valve supplied (except Model R1)
- Low temperature thermostat protects against freezing when used with water
- R4 and R5 models include high pressure refrigeration switch
- Refrigeration on all models (except R1), can be switched on and off by programmed TX150 and TXF200 thermostats, or by ancillary equipment
- Overtemperature cut-out at 100°C
- Models R1 to R3 have a rear-mounted power supply output for use by Optima controllers

Refrigeration units, R series
As described. With stainless steel internal tank with flat lid and bridge plate for mounting an accessory Optima T-series thermostatic controller. Without controller. For 220-240V 50Hz single phase supplies.
CL120-30 R1
CL120-40 R2
CL120-60 R3
CL120-65 R4
CL120-75 R5

Full details of this range are given in the Circulators section.



CL120-40 with BJ180-28

GLS Aqua Plus Shaking Water Baths

Grant
IN THE LABORATORY

- Linear shaking action
- Magnetically coupled shaking trolley for use with accessory trays
- Range: ambient + 5°C to 99°C
- Adjustable stroke speed, 40 to 400rpm strokes per minute with 18mm stroke length
- Temperature stability (DIN 58966) and uniformity at 37°C to ±0.2°C
- Programmable temperature and shaking speed presets with precise PID electronic control, digital setting and display
- Choice of bath capacities: 12 or 18 litres (working capacities: 5 or 8 litres)
- Front panel lock-out to avoid inadvertent adjustment of controls
- Non-drip, polycarbonate lid supplied
- 0 to 999 minute countdown timer with audible alarm at end of timed period
- User resettable sample protection and fixed thermal cut-out
- Drain tap provided for easy emptying of the tank
- Can be converted to an unstirred water bath using accessory base tray

Model	*Working vol. litres*	*Shaking tray area mm*	*Rack series accepted*	*Overall L x W x D mm*
GLS Aqua 12 Plus	5	240 x 235	3 x H1	380 x 335 x 270
GLS Aqua 18 Plus	8	420 x 235	5 x H1	570 x 335 x 270

Shaking Water Baths, Grant GLS Aqua Plus
As described. Supplied with non-drip, polycarbonate, gabled lid. Maximum flask immersion 60mm. For 220-240V 50/60Hz single phase supplies. Power ratings as indicated. Require, but are not supplied with, accessory trays for operation.

BJ380-10 GLS Aqua 12 Plus, 0.8kW
BJ380-20 GLS Aqua 18 Plus, 1.5kW

Accessories

Universal flask trays
Designed to accommodate a variety of vessels including conical flasks up to 1litre. An adjustable network of cross-springs secures the vessels firmly whilst allowing easy insertion and removal.

BJ384-04 UT12 for BJ380-10
BJ384-09 UT18 for BJ380-20

Plain trays
Accommodate containers, bags and miscellaneous vessels.

BJ384-15 UTP12 for BJ380-10
BJ384-18 UTP18 for BJ380-20

Test tube trays
For holding H1 series test tube racks as indicated.

BJ384-22 TT12, up to 3 racks, for BJ380-10
BJ384-26 TT18, up to 5 racks, for BJ380-20

Racks H1 series
Stainless steel, 200 x 75mm, for test tubes as indicated and BJ384-22/BJ284-26.

BJ412-04 48 x 10mm
BJ412-08 44 x 13mm
BJ412-12 24 x 16mm
BJ412-16 21 x 19mm
BJ412-20 12 x 25mm
BJ412-24 10 x 30mm
BJ412-35 48 x 1.5ml microtubes

Base trays
Stainless steel. Can be used to replace the shaking trolley and convert the tank to an unstirred bath. Provides a platform over the heater on which vessels and racks can be placed.

BJ384-40 SBT14 for BJ380-10
BJ384-42 SBT28 for BJ380-20



BJ380-20 ***BJ380-10***

OLS200 Shaking Water Bath

Grant
IN THE LABORATORY

- Orbital or linear shaking action selectable
- Quiet running, magnetically coupled shaking trolley for use with accessory trays
- 0 to 99°C operation using accessories
- Adjustable shaking speed, 20 to 200rpm (orbital), 40 to 360 strokes per minute (linear) with variable stroke length (3 settings)
- Temperature stability (DIN 58966) and uniformity to ±0.1°C
- Precise electronic control of temperature and shaking speed with digital setting and LED display
- Recessed control panel
- Large capacity stainless steel tank
- Can be converted to an unstirred water bath using accessory tray

Linear motion
A choice of three stroke length settings are available by simple adjustment within the tank.

Setting	*Stroke length mm*	*Maximum speed* strokes/minute*
A	18	340
B	28	240
C	36	180

*With representative load and conditions.

Orbital motion
Adjustable from 20 to 200rpm with a 9mm fixed radius.

Shaking Water Bath, Grant OLS200
As described. Tank dimensions 505 x 300 x 200mm deep. Overall 555 x 325 x 300mm deep. Maximum flask immersion 30mm at fastest speed setting. Weight 15kg. For 220-240V 50/60Hz single phase supplies,1.5kW. Requires, but is not supplied with, accessory trays for operation.
BJ404-25 OLS200



BJ404-25 in use

Accessories

Base tray, SBT28
Stainless steel. Can be used to replace the shaking trolley and convert the tank to an unstirred bath. Provides a platform over the heater on which vessels and racks can be placed.
BJ384-42 Base tray, SBT28

Universal flask tray, UT200
Versatile stainless steel tray, designed to accommodate a variety of vessels including 'sandwich boxes' for hybridisation and conical flasks up to 1litre. An adjustable network of cross-springs secures the vessels firmly whilst allowing easy insertion and removal.
BJ410-50 Universal flask tray, UT200

Plain tray, UTP
Accommodates containers, bags and miscellaneous vessels.
BJ410-52 Plain tray, UTP

Test tube tray, TT200
For holding up to five H1 series test tube racks.
BJ410-54 Test tube tray, TT200

Racks H1 series
Stainless steel, 200 x 75mm, for test tubes as indicated and BJ410-54.
BJ412-04 48 x 10mm
BJ412-08 44 x 13mm
BJ412-12 24 x 16mm
BJ412-16 21 x 19mm
BJ412-20 12 x 25mm
BJ412-24 10 x 30mm
BJ412-35 48 x 1.5ml microtubes

Sloping lid, LS200
Stainless steel. For use at temperatures above 60°C.
BJ418-10 Sloping lid, LS200

Water coil, CW200
For use with mains tap water or refrigerated circulator. Suitable where the required temperature is 2°C or more above that of the coolant used. Fits underneath the shaking trolley.
BJ422-25 Water coil, CW200

Immersion cooler, CS200G
Refrigerated cooler adjustable from 0 to 35°C with coil designed to fit under the shaking trolley of the OLS200. Overall dimensions (cooler only) 410 x 285 x 225mm L x W x H. For 220-240V 50Hz single phase supplies.
BJ422-30 Immersion cooler, CS200G


BJ410-50 in use ***BJ410-54 in use***

EcoTemp Water Baths

Julabo

- Unstirred with temperature stability ±0.2°C
- Stainless steel tank with galvanised steel casing finished in powder coating with carrying handles and drain screw
- Built-in PID temperature controller with large LED display and splash-proof membrane keypad operation
- Overtemperature alarm/shutdown at 130°C protects from dry running
- High and low temperature level setting with audible alarm to protect sensitive samples
- Accessory liquid level/cooling set enables counter-cooling and constant liquid level

Model No.		TW8	TW12	TW20
Nominal tank volume	*litres*	8	12	20
*Working temperature range**	*°C*	20 to 99.9	20 to 99.9	20 to 99.9
Stability	*±°C*	0.2	0.2	0.2
Display, resolution	*°C*	0.1	0.1	0.1
Timer		1 minute to 9 hours 59 minutes — all models		
Bath opening x depth	*mm*	230 x 270 x 140	350 x 270 x 140	500 x 300 x 180
Accessory racks accepted		2	3	4
Overall W x D x H	*mm*	290 x 320 x 280†	400 x 320 x 280†	560 x 350 x 320†
Weight	*kg*	8.1	9.8	14.2
Heater	*kW*	2	2	2

*Can be operated down to 20°C using accessory liquid level/cooling set. †Fitting the accessory lid increases the height by 160mm.

EcoTemp Water Baths, Julabo
As described. Unstirred. For 230V 50Hz single phase supplies.

BJ430-10 TW8
BJ430-15 TW12
BJ430-20 TW20

Accessories

Lift up lids
One-piece moulded transparent Makrolon lid with handle and hinges. The lid is shaped to direct condensation back into the bath tank via the sides.

BJ435-04 Lid for TW8 bath
BJ435-08 Lid for TW12 bath
BJ435-12 Lid for TW20 bath

Test tube racks
Plastic, with stainless steel lifting frame for tubes as indicated. Supplied singly. Please refer to table for individual bath requirements.

BJ435-18 For 60 tubes 16/17mm diameter
BJ435-22 For 90 tubes 12/13mm diameter
BJ435-26 For 90 microtubes 60mm high x 11/12mm diameter
BJ435-30 For 21 tubes 30mm diameter



BJ430-10

Liquid level/cooling set
Fits into the drain screw opening. Provides counter-cooling for low temperature applications and constant liquid level, when continuously fed with mains water.

BJ435-40 Liquid level/cooling set

Shaking Water Bath SW22

Julabo

- Temperature range 25 to 99.9°C (20 to 99.9°C using accessory liquid level/ cooling set) and shaking frequency 20 to 200rpm
- Temperature stability ±0.2°C
- Linear motion with 15mm stroke length
- Stainless steel tank with galvanised steel casing finished in powder coating with carrying handles and drain screw
- Removable shaking carriage for use with accessory carrier trays and racks
- PID controller with large LED display and splashproof membrane keypad operation
- Overtemperature alarm/shutdown at 130°C protects from dry running
- 1 minute to 9 hours 59 minutes timer with audible alarm
- RS232 interface

Shaking Water Bath SW22, Julabo
As described. Supplied with removable shaking carriage and RS232 interface. Overall 700 x 350 x 260mm. Weight 19.4kg. For 230V 50Hz single phase supplies.
BJ440-25 SW22

Accessories

Lift up lid
One-piece moulded transparent Makrolon lid with handle and hinges. The lid is shaped to direct condensation back into the bath tank via the sides.
BJ435-12 Lid for SW22

Carrier trays for erlenmeyer flasks
Stainless steel with spring clips. Fit directly onto shaking carriage.
BJ444-14 For 45 x 25ml flasks
BJ444-18 For 32 x 50ml flasks
BJ444-22 For 18 x 100ml flasks
BJ444-26 For 15 x 200ml flasks

BJ444-30 For 11 x 250/300ml flasks
BJ444-34 For 8 x 500ml flasks
BJ444-38 For 5 x 1000ml flasks

Carrier trays for test tube racks
Stainless steel. Fit directly onto shaking carriage. Supplied fitted with racks as indicated.
BJ444-53 For 240 tubes 16/17mm
BJ444-56 For 360 tubes 12/13mm
BJ444-59 For 360 tubes 11/12mm
BJ444-61 For 84 tubes 30/31mm

Liquid level/cooling set
Fits into the drain screw opening. Provides counter-cooling for low temperature applications and constant liquid level, when continuously fed with mains water.
BJ435-40 Liquid level/cooling set

RS232 Interface cable
Allows the baths to be monitored and controlled from the users' PC using accessory software BJ435-75. Supplied with interface cable.
BJ435-60 RS232 interface cable

Control Software, Easytemp, Julabo
For remote control of any single Julabo instrument with built-in RS232 interface via the users' PC running Windows™ 95/98/NT. Allows control and reviewing of all functions plus memory programming and recording.
Note: This software is a free-of-charge accessory and can also be downloaded from the Julabo website www.julabo.de.
BJ435-75 Easytemp software



BJ440-25 in use

Julabo Circulators

Combined heater/circulators for controlling vessels up to 50 litres. All models feature on/off switch, LED display with 0.1°C resolution, coiled immersion heater, pressure circulating pump, adjustable overtemperature cut-out and bath attachment clamp for wall thicknesses up to 26mm. Minimum immersion 80mm (except Model ED-145mm), maximum immersion 165mm.

Model ED, digital
Simple PID controller with splashproof membrane keypad setting, compact and reliable.

Range: 20 to +100°C*
Stability: ±0.03°C
Pump capacity: 15 litres/minute (350mbar) pressure
Overall L x W x H: 130 x 150 x 330mm
For 230V 50Hz single phase supplies, 2kW.

BJ450-15 Model ED digital

Model MB, digital
Precision PID controller with splashproof membrane keypad control, 3 temperature set-point memory, bi-directional RS232 interface and high and low level alarm setting.

Range: 20 to +100°C*
Stability: ±0.02°C
Pump capacity: 10 litres/minute (120mbar) pressure
Overall L x W x H: 130 x 150 x 330mm
For 230V 50Hz single phase supplies, 2kW.

BJ453-15 Model MB digital

Model MA, digital
Generally as the MB controller but additionally with adjustable pump pressure control.

Range: -5 to +200°C*
Stability: ±0.01°C
Pump capacity: 11 to 16 litres/minute (450mbar) pressure
Overall L x W x H: 130 x 150 x 330mm
For 230V 50Hz single phase supplies, 2kW.

BJ456-15 Model MA digital

*Note:- Accessory cooling is required for operation near or below ambient temperature.

Julabo Circulator Baths

Comprising stainless steel tanks with galvanised steel casing finished in powder coating with carrying handles and bridge mounted immersion circulator.

- Two controller levels:
  - ED — Digital setting PID with membrane keypad control and LED display, maximum working temperature 100°C, stability ±0.03°C
  - MB — Digital setting PID, with membrane keypad control, memory storage of three temperature setpoints, RS232 interface, maximum working temperature 100°C, stability ±0.02°C
- Built-in circulating pump
- Adjustable overtemperature cut-out

Model No.			ED-13	ED-19	MB-13	MB-19
Nominal tank volume		*litres*	13	19	13	19
*Working temperature range**		*°C*	20 to 100	20 to 100	20 to 100	20 to 100
Stability		*±°C*	0.03	0.03	0.02	0.02
Pump capacity	*litres/minute*		15	15	10	10
	mbar		350	350	120	120
Bath	*opening*	*mm*	180 x 300	360 x 300	180 x 300	360 x 300
	depth	*mm*	150	150	150	150
Accessory racks accepted			2	4	2	1
Overall	*W*	*mm*	390	570	390	570
	D	*mm*	330	330	330	330
	H	*mm*	370	370	370	370
Weight		*kg*	8	11	8	11

*Note: Accessory cooling is required for operation near or below ambient temperature. A lid is recommended for operation above 70°C.

Circulator Baths, Julabo
As described. Supplied with controller as indicated. For 230V 50Hz single phase supplies.

With ED-controller
BJ460-25 ED-13
BJ460-35 ED-19

With MB-controller
BJ460-65 MB-13
BJ460-75 MB-19



BJ450-15



BJ453-15, BJ456-15 is similar



BJ460-65 in use

Julabo Circulator Baths continued

Accessories for Circulator Baths

Lids

Stainless steel. Available as drop-on flat covers for closed system applications or gabled lids with "lift-up" hinge and handle for use when extra working headroom is required.

Flat cover	*"Lift-up" lid*
For 13 litre baths	
BJ463-02	***BJ463-06***
For 19 litre baths	
BJ463-10	***BJ463-14***

Cooling coil. Stainless steel. Requires a supply of cold water.

BJ463-35 Cooling coil

Test tube racks

Stainless steel carrier platform with removable polypropylene test tube rack, to hold tubes as indicated within 13, 19 or 27 litre bath tanks.

Maximum number of racks per bath tank:

13 litre: 1 19 litre: 3

BJ463-27 For 60 tubes 16/17mm diameter
BJ463-30 For 90 tubes 12/13mm diameter
BJ463-39 Pump set (inlet/outlet ferrules, pump supply tube and fixing clamp) for external circulation

Bath liquids

For use at the temperature ranges indicated. Supplied in packs of 5 litres.

BJ485-05 Thermal HY*, -80 to +55°C
BJ485-09 Thermal H5*, -50 to +105°C
BJ485-11 Thermal G*, -30 to +80°C
BJ485-13 Thermal H20S*, 0 to +220°C
BJ485-16 Thermal H10, -20 to +180°C

*Note: HY, H5, G and H20S liquids must not be used with silicone tubing.

Spare/accessory polypropylene racks - *see SM805-10/SM805-12.*

Julabo Heating circulators, MA-

Heating Circulators, MA-series, Julabo

Compact, powerful high temperature circulators for internal or external temperature control applications.

- Working temperature range up to 200°C
- Temperature stability ±0.01°C
- Bi-directional RS232 interface
- Stainless steel tank with galvanised steel casing finished in powder coating with carrying handles and drain screw
- PID controller with drift compensation, membrane keypad operation, LED display with 0.1°C resolution, memory of three temperature setpoints and upper/lower warning levels with audible alarm
- Adjustable overtemperature cut-out
- Built-in cooling coil
- Electronically adjustable pump pressure (11 to 16 litres/minute and 230 to 450mbar)

Model No.			MA-4	MA-12	MA-26
Nominal tank volume		*litres*	4.5	12	26
*Working temperature range**		*°C*	20 to 200 — all models		
Stability		*±°C*	0.01 — all models		
Bath opening	*H*	*mm*	130	220	220
	W	*mm*	150	150	300
	D	*mm*	150	200	200
Overall	*H*	*mm*	380	450	430
	W	*mm*	210	300	610
	D	*mm*	420	450	360
Weight		*kg*	9.6	26	26

*Accessory cooling is required for operation near or below ambient temperature.

Heating Circulators, MA- Series Julabo

As described. Supplied with flat lid and tubing ferrules. For 230V 50Hz single phase supplies.

BJ480-20 MA-4
BJ480-40 MA-12
BJ480-47 MA-26



BJ485



BJ460-35 in use



BJ480-20

Heating Circulators, HE- and HL-

Julabo

Heating Circulators, HE-, HL-series, Julabo
Similar to MC-series but with enhanced features:

- Working temperature range up to 250°C
- Temperature stability ±0.01°C
- PID controller with drift compensation and vacuum fluorescent multiple display (set and actual temperature) to ±0.01°C
- Programming and storage facilities (Model HE-4 up to 10 individual programme steps, Model HL-4 to 6 protocols x 60-programme steps each)
- HL-4 model additionally features:
  - secondary LED status/menu operation display, RS485 interface, Pt100 external sensor input, analogue recorder and external alarm output, analogue set point/programmer input

Model No.		HE-4	HL-4
Nominal tank volume	*litres*	4.5	4.5
*Working temperature range**	*°C*	20 to 250	20 to 250
Stability	*±°C*	0.01	0.01
Pump capacity, pressure	*litres/minute* *mbar*	22 to 26 400	22 to 26 400
Bath opening x depth	*mm*	130 x 150 x 150	130 x 150 x 150
Overall W x D x H	*mm*	210 x 420 x 400	210 x 420 x 400
Weight	*kg*	11	11

*Accessory cooling is required for operation near or below ambient temperature.

Heating Circulators, HE, HL- Series Julabo
As described. Supplied with flat lid and tubing ferrules. For 230V 50Hz single phase supplies

BJ480-50 HE-4
BJ480-70 HL-4

Pt100 external sensors for HL- model only
Supplied with connection cable and plug. 200mm long x 6mm diameter.

BJ485-40 Stainless steel
BJ485-42 Glass coated

Control Software, Easytemp
For remote control of any single Julabo instrument with built-in RS232 interface via the users' PC running Windows™ 95/98/NT. Allows control and reviewing of all functions plus memory programming and recording.

Note: This software is a free-of-charge accessory and can also be downloaded from the Julabo website, www.julabo.de.

BJ435-75 Easytemp software



BJ480-50

Dip Cooler FT402

Julabo

Dip Cooler FT402, Julabo
For use with circulator baths in counter-cooling requirements or rapidly cooling liquids down to low temperatures.

- PID control with LED readout and membrane keypad operation
- Pt100 external sensor allows precise control of temperature

Model No.			FT402
Working temperature		*°C*	-40 to +30*
Temperature stability		*±°C*	±0.5
Cooling capacity at	*+20°C* *+10°C* *-40°C*	*W* *W* *W*	450 360 30
Immersion probe length x diameter		*mm*	120 x 50
Connection tube length		*mm*	1200
Overall W x D x H		*mm*	200 x 300 x 430
Weight		*kg*	24

*FT402 has no heater and can only control above ambient where the temperature of the process or exothermic reaction is above the set temperature.

Dip Cooler FT402
As described. Supplied with mains on/off switch, power indicator lamp, 'cooling on' lamp and Pt100 external sensor with cable and plug to fit DIN socket provided. for 230V 50Hz single phase supplies.

BJ490-20 Dip cooler FT402



BJ490-20

Thermostatic Baths

TECHNE

A revised range of circulation baths comprising any combination of five basic tank sizes and four thermoregulator controllers.

- Analogue and digital models
- Five basic tank sizes 8 to 48 litres
- TU20D digital model is programmable via a built-in bi-directional RS232 interface
- Built-in circulating pump with external connections (except TU-20HT)
- Wide temperature range –40 to +250°C
- Control stability up to ±0.005°C
- Adjustable overtemperature cut-out
- Highly insulated, liquid calibration bath (LCB) tanks available for maintaining precise temperatures at 200°C or above

Construction All models comprise an immersion heating element, temperature sensor, solid-state control circuit and circulating pump, built into a rugged, splash-proof case. All submerged parts are made either of stainless steel or high temperature self-extinguishing plastic. The tank interior is stainless steel.

Controllers Temperature control is by one of either of the various Tempette or Tempunit controllers described on the following pages.

Circulation A powerful pressure circulation pump with external connection is fitted as standard to each model except TU-20HT.

Safety Techne thermoregulators are designed and manufactured under BS-EN ISO 9001. They conform with all important international RF interference and electrical safety regulations, including the EMC and Low Voltage Directives, and carry the CE-mark.

Tanks
Nominal dimensions and weights.

Model		B-8	B-12	B-18	B-26	B-48
Tank capacity	*litres*	8	12	18	26	48
Overall dimensions						
— length/width	*mm*	265/325	354/325	530/325	530/325	594/365
— height (bath)	*mm*	172	172	172	222	298
Internal dimensions						
— working length/width‡	*mm*	115/300	205/300	380/300	380/300	430/330
— depth max./min.	*mm*	130/100	130/100	130/100	180/150	255/224
Working capacity max./min.	*litres*	8.0/6.0	11.6/8.4	18.0/13.2	26.0/20.5	48.5/42.5
Weight, net	*kg*	3.6	4.2	5.4	6.6	11.6

‡ 8, 12, 18 and 26 litre tanks taper slightly towards the base. Dimensions given are those at the top of the bath.

Liquid Calibration Bath (LCB) Tanks
Nominal dimensions and weights.

Model		LCB-5	LCB-7	LCB-12
Tank capacity	*litres*	5	7	12
Bath opening	*mm*	140 x 140 — all models		
Overall dimensions, L x W x H	*mm*	351 x 260 x 183	351 x 260 x 233	351 x 260 x 358
Weight, net	*kg*	5	6	9

Thermoregulators
Specifications to DIN 58966.

Model		TE-10A	TE10D	TU-20D	TU-20HT
*Operating temp. range**	*°C*	–20 to +95	–40 to +120	–40 to +200	–40 to +250
Temperature selection		Analogue	Digital	Digital	Digital
Stability using water at 40°C	*°C*	±0.01	±0.01	±0.005	±0.005
Method of control		Proportional	PID	PID	PID
Temperature sensor		Thermistor	PRT	PRT	PRT
Pump capacity, pressure, litres/min.		10	10	10	—
suction, litres/min.		—	—	—	—
	mbar	145	145	145	—
RS232 Interface		—	—	Standard	Standard
Cooling coil		Accessory	Accessory	Accessory	Accessory
Dimensions (W x D x H)	*mm*	237 x 124 x 260 — all models			
Weight, net	*kg*	3.7	3.9	4.0	4.2

* Cooling water or refrigeration as appropriate is required at low temperatures.

continued on next page



Portable Thermoregulators

"Clip on" temperature controllers with mounting clamp suitable for vessels with wall thickness up to 25mm. All models incorporate a splash-proof case, coiled immersion heater and pressure circulating pump (except TU-20HT). In addition they are fitted with an adjustable overtemperature cut-out and conform to international standards for radio frequency interference.

TE10D, TU20D and TU20-HT models have a low liquid level cut-out.

TU-20D and TU20-HT have a built-in RS232 interface which allows them to communicate with the users' personal computer if required using Thermsoft PC control freeware available from www.techne.com.

All 230V units are supplied with both UK and European Schuko plugged mains supply leads.

Tempette® and Tempunit® are registered trade marks of Techne Ltd.

Tempette® Model TE-10A Analogue

Basic, low cost controller, compact, robust and reliable.

Range	–35 to +100°C*
Stability (DIN 58966)	±0.01°C
Pump capacity	10 litres/minute
Overall L x W x H	237 x 124 x 260mm

For 230V 50/60Hz single phase supplies.

BJ750-25 TE-10A Analogue

Tempunit® Model TE-10D Digital

Versatile controller for accurate repeatability of temperature settings.

Range	–40 to +120°C*
Stability (DIN 58966)	±0.01°C
Pump capacity	10 litres/minute
Overall L x W x H	237 x 124 x 260mm

For 230V 50/60Hz single phase supplies.

BJ765-25 TE-10D Digital

Tempunit® Model TU-20D Digital

High precision, digital controller with wide temperature range and fine temperature adjustment. Fitted with bi-directional RS232 interface for programming by a personal computer.

Range	–40 to +200°C*
Stability (DIN 58966)	±0.005°C
Pump capacity	10 litres/minute
Overall L x W x H	237 x 124 x 260mm

For 230V 50/60Hz single phase supplies.

BJ770-25 TU-20D Digital

* Accessory cooling is required for operation near or below ambient temperature.

Tempunit® Model TU-20HT Digital

Ultra-wide ranging, high accuracy, digital controller with adjustable over-temperature cut-out and alarm, bi-directional RS232 interface and fitted cooling coil.

Range	–40 to +250°C*†
Stability (DIN 58966)	±0.005°C
Overall L x W x H	237 x 124 x 260mm

For 230V 50/60Hz single phase supplies.

BJ775-30 TU-20HT

Notes:

* Accessory cooling is required for operation near or below ambient temperature.

†TU-20HT does not have an external circulation facility, and for use above 200°C, a Techne liquid calibration bath tank must be used.

Accessories

Cooling coil for all models. Requires a supply of cold water.

BJ778-06 Cooling coil

Dip coolers – *see BJ925 series.*

Polypropylene spheres to minimise evaporation – *see BJ177-03.*

Tanks with bridge mounting plates for use with controllers – *see BJ816/BJ819.*

Refrigerated Circulator Baths – *see CL160/CL162.*



BJ750-25



BJ770-25, BJ765-25 and BJ775-30 are similar

Bath Tanks

Stainless steel tanks with stoved enamel steel outer cases incorporating carrying handles (except B-48). With bridge mounting plate for Techne controllers.

Model		B-8	B-12	B-18	B-26	B-48
Tank capacity	*litres*	8	12	18	26	48
Overall length	*mm*	265	354	530	530	594
width	*mm*	325	325	325	325	365
height	*mm*	172	172	172	222	296
Internal length	*mm*	115	205	380	380	430
width‡	*mm*	300	300	300	300	330
depth max.	*mm*	130	130	130	180	255
min.	*mm*	100	100	100	150	224
Weight, net	*kg*	3.6	4.2	5.4	6.6	11.6

‡ 8, 12, 18 and 26 litre tanks taper slightly towards the base and have radiused internal corners. The 48 litre tank is of welded construction, with square corners. Dimensions given are those at the top of the bath.

BJ816-08 Tank only Model B-8
BJ816-12 Tank only Model B-12
BJ816-18 Tank only Model B-18
BJ816-26 Tank only Model B-26
BJ816-48 Tank only Model B-48

Cooling coil – *see BJ778-06.*

Polypropylene spheres – *see BJ177-03.*

Controllers – *see BJ750/BJ775.*

Liquid Calibration Bath (LCB) Tanks

Heavily insulated tanks for low or high temperature operation with lid, drain tap and built-in cooling coil. (Please note: when fitted with a TU-20HT controller, these tanks cannot be used with Techne flow coolers). Operating range* -35 to +250°C.

*Cooling water or refrigeration as appropriate is required at low temperatures.

Model		LCB-5	LCB-7	LCB-12
Tank capacity	*litres*	5	7	12
Bath opening	*mm*	140 x 140 — all models		
Overall dimensions,				
length x width	*mm*	351 x 260	351 x 260	351 x 260
height	*mm*	183	233	358
Weight, net	*kg*	5	6	9

As described. Supplied with lid, built-in cooling coil and drain tap.

BJ819-05 Tank only Model LCB-5
BJ819-07 Tank only Model LCB-7
BJ819-12 Tank only Model LCB-12

Thermostatic Baths, complete*

*Now supplied as separate components - please select a tank and thermoregulator separately.

Accessories for Thermostatic Baths

A range of flat and gabled stainless steel lids are offered to suit all sizes of constant temperature baths. They provide complete coverage of the open bath surface for additional safety, reducing heat loss and evaporation, and containing steam or fumes.

Flat lids

BJ853-08 for 8 litre baths
BJ853-12 for 12 litre baths
BJ853-18 for 18 and 26 litre baths
BJ853-48 for 48 litre baths

Gabled lid

The gabled lid offers extra working headroom within the bath, and the angled top directs condensate to the side of the bath.

BJ856-18 for 18 and 26 litre baths



BJ816



BJ819-12 with BJ770-25

Dip Coolers

TECHNE

For use with thermostatic baths and controllers to provide controlled temperatures near or below ambient.

Dip Coolers, Techne

Catalogue No.		***BJ925-10***	***BJ925-40***
Model		RU-200	RU-500
Minimum temperature	°C	–20	–35
Cooling capacity at 20°C	W	145	240
0°C	W	145	240
–10°C	W	110	230
Coil L x D	mm	85 x 75	85 x 75
Hose length	mm	1250	1250
Overall	mm	235 x 420 x 300	370 x 430 x 325
Weight, net	kg	17.7	31

As detailed. With mains on/off switch, power indicator lamp and compressor on lamp. For 230V 50/60Hz single phase supplies.

BJ925-10 RU-200
BJ925-40 RU-500

Refrigerated Circulator Baths – *see CL160/CL162.*



BJ925

Block Thermostats

Grant
IN THE LABORATORY

For controlled, dry heating of test tubes, microplates and Eppendorf tubes in aluminium blocks.

- Choice of models:
  - — QBA; range ambient +5°C to +100°C, with analogue dial setting to 1°C and thermal fuse overtemperature protection
  - — QBD; range ambient +5°C to +130°C, with a novel interactive control interface using a dial rotor and two keys with a bright LED display, reaction timer from 1 to 4320 minutes, delayed start-up or switch-off function, offset adjustment to optimise accuracy, adjustable high temperature alarm, fault indication and alarm, socket for an accessory external Pt1000 temperature probe and thermal fuse overtemperature protection
  - — QBH; range ambient +5°C to +200°C, with all the features of the QBD series and two-point calibration of internal (or accessory external) temperature probes, front panel programming interface allowing set-up of up to three temperature/time segments plus an end-of-programme segment for control of audible alert and 'rest' temperature, and additional overtemperature protection by adjustable thermal cut-out

Model		***QBA1***	***QBA2***	***QBD1***	***QBD2***	***QBD4***	***QBH2***
Control		Analogue	Analogue	Digital	Digital	Digital	Digital
Range (resolution)	°C	Ambient +5 to 100 (2) — both models		Ambient +5 to 130 (0.1) — all models			Ambient +5 to 200 (0.1)
Stability (at 37°C)	±°C	1.0	1.0	0.1	0.1	0.1	0.1
Uniformity (at 37°C)	±°C						
within block		1.0	1.0	0.1	0.1	0.1	0.1
across similar blocks		1.0	1.0	0.2	0.2	0.2	0.2
Blocks accepted		1	2	1	2	4	2
Overall L	mm	230	280	230	280	380	280
W	mm	200	200	200	200	200	200
H	mm	100	100	100	100	100	100
Power	W	150	300	150	300	600	300
Supply		230V 50/60Hz single phase supply — all models					

As described. Supplied with block extraction tool. Requires,but do not include, interchangeable QB-series blocks.

BK205-05 QBA1
BK205-15 QBA2
BK205-20 QBD1

BK205-30 QBD2
BK205-40 QBD4
BK205-70 QBH2

Accessory covers
Clear polycarbonate. Protect the operator against accidentally touching blocks whilst hot.

BK206-72 QBL1, for QBA1 and QBD1 only
BK206-74 QBL2, for QBA2, QBD2 and QBH2 only
BK206-76 QBL4, for QBD4 only

External Pt1000 Probe UBEP
Allows in-block temperature of QBD/QBH series to be monitored and controlled directly.

BK206-97 QBEP probe

Blocks, QB-series
Interchangeable. Machined aluminium, 140 x 50 x 62.5mm (L x W x H). Holes drilled as indicated.

	Ref.	*No.*	*Dia. x depth, mm*
BK217-03	QB-10	24	10 x 50
BK217-06	QB-12	24	12 x 50
BK217-07	QB-13	12	12 x 50
BK217-09	QB-16	12	16 x 50
BK217-12	QB-18	12	18 x 50
BK217-15	QB-24	5	24 x 50
BK217-16	QB-H	56 x 0.2ml centrifuge tubes	
BK217-18	QB-E0	24 x 0.5ml Eppendorf tubes	
BK217-21	QB-E1	24 x 1.5ml Eppendorf tubes	
BK217-23	QB-E2	24 x 2.0ml Eppendorf tubes	
BK217-24	QB-0	Solid for user to drill	
BK217-40	QB-50	4 x 50ml non-skirted centrifuge tubes	

Blocks for microtitration plates and PCR tubes - *see MN663 on page 363.*



BK217 in use



BK205-15 in use with blocks, BK205-05 is similar



BK205-40 in use with BK206-76, BK205-20 to BK205-40 are similar

Block Thermostats

Grant
IN THE LABORATORY

Digital Block Thermostats, BT5D series, 400°C

- Precise digital setting and display with high clarity LED and recessed controls
- Integral fixed aluminium block
- 0 to 9999 minute timer or continuous operation
- Adjustable overtemperature cut-out with indicator

Maximum temperature 400°C, with stability ±0.5°C. Digital setting and display to 1°C resolution. With 0 to 9999 minute timer, adjustable in 1 minute increments or for continuous operation, one fixed anodised aluminium block, drilled with holes as indicated. Overall 410 x 205 x 150mm. For 220-240V 50/60Hz single phase supplies, 750W.

	Model	*No.*	*Dia. x depth mm*
BK230-15	BT5D-16	38	16.5 x 60
BK232-15	BT5D-26	22	26.5 x 60

Digital Block Thermostat, BTD, 100°C

A low cost, analogue control, fixed block, dry heater for precision heating of microtubes, particularly in life sciences. With rapid heat up and digital control.

- Unique circular block which accommodates up to 49 samples in microtubes:
  24 x 1.5/2ml 15 x 0.5ml 10 x 0.2ml
- Range: ambient +5° to +100°C, stability ±0.1°C
- Block uniformity: ±0.2°C
- Heat up from +25°C to +100°C in 16 minutes, +25° to +37°C in 2 minutes
- Dual display of set and actual temperature
- Built-in timer from 1 minute to 96 hours with audible alarm at end of timed period
- Small footprint and compact design

As described. With circular fixed block. Overall 230 x 210 x 110mm (L x W x H). For 230V 50/60Hz single phase supplies, 200W.

BK245-20 BTD



BK230/BK232 in use



BK245-20 in use

Block Heaters

For uniform and stable heating of test tubes, Eppendorf tubes and cuvettes.

- Choice of
  - — maximum temperature 130°C or 200°C
  - — analogue dial or digital control with bright LED display
- Dual control model SBH130DC provides individual heating/control to two blocks
- 'Hot warning' light illuminates whenever block temperature exceeds 70°C even when unit is switched off (but remains connected to the mains supply socket)
- Heat to 100°C in less than twelve minutes

Model		SBH130	SBH130D	SBH130D/3	SBH130DC*	SBH200D	SBH200/D3
Range	°C	ambient +8 to +130 — all models				ambient +8 to +200 — both models	
Stability (at 37°C)	±°C	0.1 — all models					
Uniformity at 37°C	±°C	0.1 — all models					
at 130°C	±°C	1.0 — all models					
Control		Analogue dial	Digital	Digital	Digital (x 2)*	Digital	Digital
Blocks accepted		2	2	3	2	2	3
Heater power	W	300	300	300	2 x 150*	300	450
Overall, W x D x H	mm	235 x 280 x 115	235 x 280 x 115	310 x 280 x 115	310 x 280 x 115	235 x 310 x 115	310 x 280 x 115
Weight	kg	2.1	2.3	3.2	2.9	2.3	3.2

*Dual control model with separate block heating.

Block Heaters, Stuart
As described. With 'power on' and 'hot warning' lamps and block extraction tool. For 230V 50Hz single phase supplies. Without blocks.

BK280-40 SBH130
BK280-45 SBH130D
BK280-50 SBH130DC

BK280-52 SBH130D/3
BK280-55 SBH200D
BK280-60 SBH200D/3



BK280-40 in use

Accessories

Aluminium blocks
Supplied singly.

BK282-04 for 20 x 10.5mm diameter tubes
BK282-08 for 20 x 12.6mm diameter tubes
BK282-12 for 12 x 16.5mm diameter tubes
BK282-16 for 8 x 19.5mm diameter tubes
BK282-19 for 6 x 25.5mm diameter tubes

BK282-21 for 6 x 28mm diameter tubes
BK282-25 solid for user to drill as required
BK282-26 for 48 x 0.2ml centrifuge tubes
BK282-27 for 30 x 0.5ml tubes
BK282-28 for 20 x 1.5ml Eppendorf tubes

BK282-30 for 20 x 2.0ml Eppendorf tubes
BK282-35 for 15 x 10mm cuvettes. Separations can be removed to take larger cells
BK282-40 for 1 x 96-well microplate
BK282-42 for 1 x 384-well microplate

Safety covers
Perspex covers protect the operator from 'spitting tubes' and against accidentally touching the blocks whilst hot.

BK282-85 SBH/2, for 2-block models except dual control
BK282-95 SBH/3, for 3-block and dual control models

Thermometers - see *TG150*.



BK280-45 in use



BK280-50 in use

Dri-Blocks

TECHNE

Economical, compact, constant temperature heaters with choice of temperatures 100°C or 200°C, suitable for test tubes, cuvettes and other small containers in a variety of applications.

- Temperature stability ±0.2°C at 40°C
- Analogue or digital setting
- Wide variety of accessory blocks available

Without blocks. For 230V 50/60Hz single phase supplies.

BK340-30 DB-2A
BK340-35 DB-2D
BK340-40 DB-3
BK340-45 DB-3A
BK340-50 DB-3D
BK340-85 DB-4D

Accessory Aluminium Blocks
For tubes as indicated. Dimension given is tube diameter. Overall 95 x 76 x 51mm except where stated.

BK360-04 30 x 6mm
BK360-08 20 x 10mm
BK360-12 20 x 12mm
BK360-16 20 x 13mm
BK360-20 12 x 15mm

BK360-24 12 x 16mm
BK360-28 8 x 19mm
BK360-32 6 x 24mm
BK360-36 6 x 25mm
BK360-40 6 x 26mm

BK360-50 10 x 9mm/20 x 7mm
BK362-04 2 x 10mm cuvettes
BK364-04 20 x 1.5ml Eppendorf
BK364-06 30 x 0.5ml Eppendorf

BK366-04 Solid user to drill
BK366-12 Solid plastic spacers, for BK340- series, pack 2
BK368-04 Solid but with thermometer hole

Catalogue No.			***BK340-30***	***BK340-35***	***BK340-40***	***BK340-45***	***BK340-50***	***BK340-85***
Model			DB-2A	DB-2D	DB-3	DB-3A	DB-3D	DB-4D
Temp. range		°C	ambient to 100 - all models			ambient to 200 - both models		ambient to 100
Temp. setting			Rotary Knob	Push button	Rotary Knob	Rotary Knob	Push button	Push button
Temp. display			—	Red LED	—	—	Red LED	Red LED
Heating time to max.		*minutes*	12	12	18	30	25	15
Blocks accepted			2	2	3	3	3	4
Overall	*Length*	*mm*	202	202	279	279	279	356
	Width	*mm*	260	260	260	260	260	260
	Height	*mm*	105	105	105	105	105	105
Weight		*kg*	4	5	6	6	6	7

Programmable block heaters – *see Molecular Biology section*



BK340 in use

Block Heater Cooler, BL°CKICE

- Range 0 to 40°C x 0.1°C (°F display facility)
- Holds two standard Techne aluminium blocks
- Integral timer from 1 second to 9 days
- Overtemperature cut-out with alarm
- LED temperature/time display

As described. With Peltier cooling module, accuracy ±1°C with block variation (identical blocks) ±0.2°C, digital temperature or time display and lid. Overall 240 x 190 x 225mm W x D x H . Weight 3kg. For 100-230V 50/60Hz single phase supplies. Without blocks.

BK370-05 BL°CKICE

Accessory Aluminium Blocks

For tubes as indicated. Dimension given is tube diameter. Overall 95 x 76 x 51mm except where stated.

BK360-04 30 x 6mm
BK360-08 20 x 10mm
BK360-12 20 x 12mm
BK360-16 20 x 13mm

BK360-20 12 x 15mm
BK360-24 12 x 16mm
BK360-28 8 x 19mm
BK360-32 6 x 24mm
BK360-36 6 x 25mm

BK360-40 6 x 26mm
BK360-50 10 x 9mm/20 x 7mm
BK362-04 2 x 10mm cuvettes
BK364-04 20 x 1.5ml Eppendorf

BK364-06 30 x 0.5ml Eppendorf
BK366-04 Solid user to drill
BK366-12 Solid plastic spacers, for BK370- series, pack 2
BK368-04 Solid but with thermometer hole

Dry Bath Heater/Cooler, N°ICE

Allows small tubes up to 15ml to be incubated on the bench at sub-ambient temperatures without the inconvenience of ice baths such as melting and soaked labels.

- Range 0 to 40°C x 0.1°C (°F display facility)
- Heats/cools using removable aluminium tank filled with small diameter, ceramic-coated beads
- Overtemperature cut-out with alarm
- LED temperature/time display

As Described. With Peltier cooling module, accuracy ±1°C, removable aluminium tank and beads, digital temperature display and lid. Overall 240 x 190 x 225mm W x D x H. Weight 4.5kg. For 100-230V 50/60Hz single phase supplies.

BK380-10 N°ICE
BK380-55 Spare tank for BK380-10
BK380-60 Bead charge for BK380-55



BK370-05 in use



BK380-10 in use

Fluidised Baths

TECHNE

High temperature dry baths which are pollution free and safer replacements for traditional oil and salt baths.

Fluidised principle

A fluidised bath consists of a loosely packed mass of solid particles through which an upward flow of gas is passed. In this fluidised state the particles become mobile, and the bath as a whole displays many of the properties of a liquid. However, since the bath is composed of tiny inert aluminium oxide particles, freezing, boiling and evaporation are totally eliminated.

The dry, inert particles do not adhere to immersed objects, neither do they cause corrosion. The particles have a gentle motion that is non-abrasive.

The mobility of the bath ensures rapid heat transfer and excellent temperature uniformity.

These baths require a clean air supply at a pressure of 21KN/m² (3psi) and maximum flow of 57 litres/minute.

Catalogue No.		***BK502-10***	***BK512-10***
Model		SBL-1	SBL-2
Range	°C	50 to 350	50 to 600
Stability	±°C	1 — all models	
*Internal**			
depth	*mm*	120	182
diameter	*mm*	228	228
Rating	*kW*	2	3

*To the top of the fluidised medium.

Fluidised Baths, Techne

As described. For 220-240V 50/60Hz single phase supplies. Without air supply.

BK502-10 SBL-1 350°C
BK512-10 SBL-2 600°C

Batteries/Battery Hydrometer

Dimensions are Height x Diameter or H x W x D in mm.

Lithium Manganese

Coin-type. Supplied singly.

	Type	*Capacity mAh*	*Volts*	*Dimensions*
BL590-05	CR1220	35	3	2 x 12.5
BL590-10	CR1620	50	3	2 x 16
BL590-15	CR2016	60	3	1.6 x 20
BL590-20	CR2025	130	3	2.5 x 20
BL590-25	CR2032	180	3	3.2 x 20
BL590-30	CR2430	260	3	3 x 24.5

Dry-alkaline Manganese

All have cap and can contact, except BL610-04 which is a button cell.

	Type	*Equivalent*	*Volts*	*Dimensions*
BL610-04	LR44	—	1.4	5.4 x 11.6
BL610-08	MN2400 (size AAA)	HP6	1.5	45 x 11
BL610-15	MN1500 (size AA)	HP7	1.5	51 x 15
BL610-20	MN1400 (size C)	HP11	1.5	50 x 26
BL610-22	MN1300 (size D)	HP2	1.5	62 x 34
BL610-25	MN1604	PP3	9	49 x 27 x 18

Silver Oxide

Button cell type.

	Type	*Capacity mAh*	*Volts*	*Dimensions*
BL630-06	SR41	38	1.5	3.6 x 7.9
BL630-18	SR44	170	1.5	5.4 x 11.6

Battery Hydrometer

For lead-acid accumulators. Pipette type; range 1.100 to 1.300 with coloured zones indicating charged, partly charged, and uncharged conditions. With float, plastic jacket and rubber suction bulb and nozzle. Length 203mm.

BL710-08 Battery hydrometer



BK502





BL710-08

Pyrex® Borosilicate Glass

Pyrex® 1000 series, low form

With approximate graduations (except 10 litre size), marking spot and spout. To ISO 3819.

	Ref.	Capacity ml	Dia. x Ht. mm
BN100-10	1000/03	5	22 x 30
BN100-15	1000/05	10	26 x 35
BN100-20	1000/11	25	34 x 50
BN100-25	1000/02	50	42 x 60
BN100-30	1000/04	100	50 x 70
BN100-35	1000/06	150	60 x 80
BN100-40	1000/10	250	70 x 95
BN100-45	1000/14	400	80 x 110
BN100-50	1000/18	600	90 x 125
BN100-55	1000/20	800	100 x 135
BN100-60	1000/22	1000	105 x 145
BN100-65	1000/28	2000	130 x 185
BN100-70	1000/30	3000	150 x 210
BN100-75	1000/34	5000	170 x 270
BN100-80	1000/38*	10000	217 x 350

*Supplementary to ISO range.

Pyrex® 1015 series, tall form

With approximate graduations, marking spot and spout. To ISO 3819.

	Ref.	Capacity ml	Dia. x Ht. mm
BN120-25	1015/02	50	38 x 70
BN120-30	1015/04	100	48 x 80
BN120-35	1015/06	150	54 x 95
BN120-40	1015/10	250	60 x 120
BN120-45	1015/14	400	70 x 130
BN120-50	1015/18	600	80 x 150
BN120-60	1015/22	1000	95 x 180

Pyrex® 1020 series, conical

With spout. Top diameter is approximately 16mm less than the base diameter.

	Ref.	Capacity ml	Base Diameter x height mm
BN130-40	1020/06	250	68 x 105
BN130-47	1020/16	500	86 x 142

Pyrex® 1003 series, heavy duty, low form

Designed to provide high mechanical strength and increase the working life when used under harsh conditions. Have a reinforced rim plus a thicker wall and heavier base than the normal glass beaker. All capacities have a spout, marking spot and approximate graduations.

	Ref.	Capacity ml	Diameter x height mm
BN135-35	1003-150	150	57 x 89
BN135-40	1003-250	250	68 x 90
BN135-45	1003-400	400	77 x 110
BN135-50	1003-600	600	90 x 124
BN135-60	1003-1L	1000	108 x 156
BN135-65	1003-2L	2000	131 x 179
BN135-75	1003-4L	4000	160 x 250

Pyrex® 1025 series, jacketed

For maintaining samples at a constant temperature, cooling or warming. With external jacket, through which a thermostatically controlled medium can be circulated via the inlet/outlet side-arms, and approximate graduations.

	Ref.	Capacity ml	Overall dia. x height mm	Side-arm o.d. mm
BN140-40	1025/10SC	250	70 x 138	11
BN140-50	1025/18SC	600	95 x 180	11
BN140-60	1025/22SC	1000	110 x 235	14
BN140-65	1025/28SC	2000	130 x 280	14

All dimensions and capacities are nominal.



BN100



BN130



BN140



BN120



BN135

Beakers

Duran® Borosilicate Glass

Duran® 21 106 series, low form
With approximate graduations (except 10 litre size) marking spot and spout. To ISO 3819.

	Ref.	Capacity ml	Dia. x Ht. mm
BN160-10	21 106/07	5	22 x 30
BN160-15	21 106/08	10	26 x 35
BN160-20	21 106/14	25	32 x 48
BN160-25	21 106/17	50	42 x 60
BN160-30	21 106/24	100	50 x 70
BN160-35	21 106/29	150	55 x 81
BN160-40	21 106/36	250	69 x 95
BN160-45	21 106/41	400	82 x 100
BN160-50	21 106/48	600	90 x 125
BN160-55	21 106/53	800	98 x 136
BN160-60	21 106/54	1000	105 x 145
BN160-65	21 106/63	2000	132 x 185
BN160-70	21 106/68	3000	153 x 210
BN160-75	21 106/73	5000	170 x 270
BN160-80	21 106/86	10000	217 x 350

Duran® 21 116 series, tall form
With approximate graduations marking spot and spout. To ISO 3819.

	Ref.	Capacity ml	Dia. x Ht. mm
BN163-25	21 116/17	50	38 x 70
BN163-30	21 116/24	100	47 x 80
BN163-35	21 116/29	150	53 x 96
BN163-40	21 116/36	250	60 x 120
BN163-45	21 116/41	400	70 x 130
BN163-50	21 116/48	600	80 x 150
BN163-55	21 116/53	800	89 x 175
BN163-60	21 116/54	1000	95 x 180
BN163-65	21 116/63	2000	118 x 240
BN163-70	21 116/68	3000	135 x 280

Metal

Aluminium squat form
With spout.

	Capacity ml	Dia. x Ht. mm
BN170-40	250	69 x 76
BN170-47	500	84 x 103
BN170-60	1000	102 x 124

Stainless steel
With spout.

	Capacity ml	Dia. x Ht. mm
BN180-38	200	60 x 75
BN180-43	350	65 x 115
BN180-48	550	75 x 125
BN180-53	700	75 x 165
BN180-60	1000	110 x 125
BN180-63	1250	100 x 165
BN180-65	2000	125 x 180
BN180-68	2500	150 x 160
BN180-75	5000	185 x 220

Stainless Steel Storage Containers – *see Storage section.*

Graduated Measuring Jugs, Plastic and Metal, capacities up to 5000ml – *see Measures section.*

All dimensions and capacities are nominal.



BN160 ***BN163***



BN180, BN170 is similar

Plastic

Polystyrene, disposable, opaque
Without spout, but with pouring lip. Separate snap on lids are available in clear polystyrene. Supplied in packs of 1000.

BN250-05 100ml, 47mm high
BN250-06 Lids for BN250-05

Tri-corner, polypropylene
With tri-cornered rim for ease of pouring. Can be autoclaved and used at temperatures up to 120°C. With approximate graduations. Supplied in packs of 25.

BN260-28 50ml
BN260-33 100ml
BN260-43 250ml

BN260-48 400ml
BN260-58 800ml
BN260-63 1000ml

Polypropylene, low form
A budget range of translucent polypropylene, low form beakers with spout and approximate graduations printed in blue. Can be autoclaved and used up to 121°C. To ISO 7056. Supplied singly.

BN265-20 25ml
BN265-25 50ml
BN265-30 100ml

BN265-35 150ml
BN265-40 250ml
BN265-45 400ml

BN265-50 600ml
BN265-60 1000ml
BN265-65 2000ml

Polypropylene, low form, Kartell
Translucent (almost clear) with approx. moulded-in graduations and spout. Can be autoclaved to 121°C. To ISO 7056. Supplied singly.

BN270-19 25ml
BN270-24 50ml
BN270-29 100ml

BN270-39 250ml
BN270-49 500ml
BN270-60 1000ml

BN270-65 2000ml
BN270-70 3000ml
BN270-75 5000ml

Polypropylene, low form, Azlon
Translucent, with spout and approximate printed graduations. Can be autoclaved to 121°C. To BS5404 Pt1 1976. Supplied singly.

BN280-15	BDA208P	10ml
BN280-20	BDA212P	25ml
BN280-25	BDA218P	50ml
BN280-30	BDA224P	100ml
BN280-40	BDA230P	250ml
BN280-45	BDA234P	400ml
BN280-47	BDA236P	500ml
BN280-50	BDA238P	600ml
BN280-60	BDA240P	1000ml
BN280-65	BDA242P	2000ml

Polypropylene, low form, sets, Azlon
Generally as individual BN280- series beakers but supplied in convenient sets of different sizes as indicated.

	Ref.	*Sizes, ml*
BN280-90	BDA218MES	50, 100, 250
BN280-92	BDA1198	500, 1000, 2000
BN280-94	BDA1199	10, 25, 50, 100, 250
BN280-96	BDA1200	10, 25, 50, 100, 250, 500, 1000, 2000
BN280-98	BDA300P	10, 25, 50, 100, 250, 400, 500, 600, 1000, 2000


BN250


BN265


BN280


BN260


BN270

Plastic continued

Polypropylene, Azlon

High clarity polypropylene beakers with spout and approximate moulded-in graduations, tapered sides and vertical ribs to allow easy stacking without "gripping", and non-slide, anti-suction bases. Can be autoclaved and used up to 121°C. To ISO7056. Supplied singly.

BN285-20	BPM0025P	25ml
BN285-25	BPM0050P	50ml
BN285-30	BPM0100P	100ml
BN285-40	BPM0250P	250ml
BN285-45	BPM0400P	400ml
BN285-47	BPM0500P	500ml
BN285-50	BPM0600P	600ml
BN285-60	BPM1000P	1000ml
BN285-65	BPM2000P	2000ml
BN285-70	BPM3000P	3000ml
BN285-75	BPM5000P	5000ml

PMP (TPX), low form, Azlon

Transparent with spout and approximate printed graduations. Suitable for use up to 180°C. Supplied singly.

BN350-20	BDB312P	25ml
BN350-25	BDB318P	50ml
BN350-30	BDB324P	100ml
BN350-40	BDB330P	250ml
BN350-45	BDB334P	400ml
BN350-47	BDB336P	500ml
BN350-50	BDB338P	600ml
BN350-60	BDB340P	1000ml
BN350-65	BDB342P	2000ml

PTFE

Opaque with spout. Rigid and non-porous with smooth surfaces. Suitable for use up to 260°C or 300°C for short periods. With flat base.

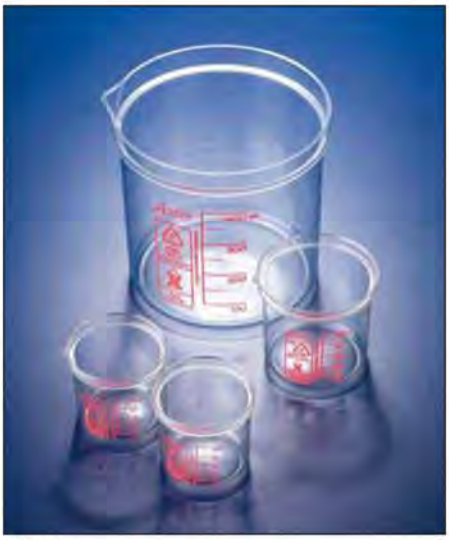
BN400-15	10ml	*BN400-35*	150ml
BN400-20	25ml	*BN400-40*	250ml
BN400-25	50ml	*BN400-47*	500ml
BN400-30	100ml	*BN400-60*	1000ml

SAFETY WARNING

It is not advisable to use PTFE beakers on a hotplate as fluorine gas can be emitted at high temperatures.



BN285



BN350



BN400

Beakers, Bell jars, Bellows, Boats

Beaker Accessories

Watch Glasses
Clear glass with ground edges. Diameters are nominal.

	Dia. mm
WG100-10	30
WG100-15	40
WG100-20	50
WG100-25	60
WG100-30	70
WG100-35	80
WG100-40	90
WG100-45	100
WG100-50	130
WG100-55	150
WG100-60	200

Watch Glasses, Pyrex
Borosilicate glass. Diameters are nominal.

	Ref.	*Dia. mm*
WG130-13	1060/04	40
WG130-18	1060/06	50
WG130-23	1060/09	60
WG130-38	1060/10	80
WG130-48	1060/14	100
WG130-52	1060/18	125
WG130-58	1060/20	150
WG130-63	1060/21	200
WG130-70	1060/24	250

Watch glasses
Polypropylene. Transparent with stable ring base. Autoclable 121°C.

	Dia. mm
WG145-23	60
WG145-38	80
WG145-48	100
WG145-52	125

Bell Jars

Bell Jars, 29/32 socket top
Glass. Without stopper or stopcock. Dimensions stated are approximate height to shoulder x inside flange diameter in mm.

BP100-10 200 x 150
BP100-20 300 x 200

For suitable stopper SB29 or stopcock MF11/4 – *see Quickfit section.*

Bell Jars, knob top
Glass. Dimensions stated are approximate height to shoulder x inside flange diameter in mm.

BP102-12 200 x 150
BP102-22 300 x 200

Note: Bell jars are not intended to be pressurised or evacuated.

Bellows

Bellows, hand
With non-return valve and outlet tubing. Approximate capacity given is for the bulb.

	Capacity
Single spray	
BP200-15	65ml
BP200-20	100ml
BP200-25	130ml
Double spray	
BP205-10	30ml
BP205-15	65ml
BP205-20	100ml
BP205-25	130ml

Bellows
With non-return valve and connectors for 6mm bore tubing. Suitable for use with the Orsat apparatus.

BP210-10 Bellows

Bench Taps – *see Furniture section.*

Boats, Combustion

For use in furnace combustion tubes. With handle. Dimensions stated are the length x width x height in mm.

	Size mm
Glazed porcelain	
BP300-58	85 x 12 x 8
BP300-66	102 x 19 x 12
Glazed silica	
BP327-10	50 x 15 x 9
BP327-25	78 x 17 x 11
BP327-40	103 x 20 x 12
Alumina	
BP344-10	50 x 12 x 20
BP344-17	86 x 15 x 13
BP344-25	108 x 20 x 17
BP344-35	119 x 30 x 19

Boats, Weighing

Weighing Boats
Polystyrene, disposable, can be shaped to form a pouring funnel. Available in white or black.

	Cap. ml	*Pack qty.*
White		
BD750-01	5	1000
BD750-02	30	500
BD750-04	100	250
Black		
BD750-61	5	1000
BD750-62	30	500
BD750-64	100	250

Weighing Boats
Polystyrene, disposable, square shape with flat bottom. Supplied in packs of 1000. White.

BD755-05 7ml, 44 x 44mm
BD755-10 100ml, 80 x 80mm
BD755-15 250ml, 140 x 140mm

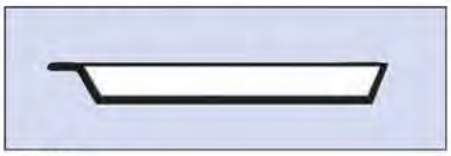
See main page for full listing.



WG100 WG130



BP100 BP102



BP300



BP327, BP344 are similar



WG145



BP200 BP205 BP210



BD750 BD755

Bottles, Glass, Uncapped

Flat

Bottles, flat
Sloping shoulder, without cap.

	Cap. ml	Neck	Pack qty.
Clear glass			
BR100-31	100	R3/24	90
BR100-36	150	R3/24	48
BR100-42	200	R3/28	56
BR100-46	300	R3/28	36

Safety Coating
The tough PVC safety coating can be applied to many bottles. If you need a particular type of bottle coated, please let us have details.

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**

Winchester

Bottles, Winchester pattern
Narrow mouth, without cap.

	Cap. ml	Neck	Pack qty.
Clear glass			
BR120-17	30	R3/20	138
BR120-50	500	R6/31	24
BR120-80	1000	R6/31	12
Amber glass			
BR122-07	10	R3/20	163
BR122-10	15	R3/20	138
BR122-18	30	R3/20	130
BR122-22	50	R3/24	76
BR122-30	100	R3/24	86
BR122-34	150	R3/24	68
BR122-50	500	R6/31	24
BR122-80	1000	R6/31	12
BR122-90	2000	R6/31	12
BR122-95	2500	R6/31	12
Amber glass, ribbed			
BR124-90	2000	R6/31	12

Medical

Bottles, DIN for sterile fluids
Clear flint sulphated lightweight type II glass. Without stopper or cap.

	Cap. ml	Pack qty.
BR140-30	100	99
BR140-50	500	35

Stopper with pull ring, pk 1500.
BR142-06 Stopper

Stopper 31mm, infusion, rubber, pk 100.
BR142-08 Stopper

Snap cap 31mm, aluminium/polypropylene, pk 100.
BR142-12 Cap

Aluminium foil cap crimper
Hand operated. For use with BR142-12.
BR190-20 For 31mm diameter

Bottles, medical dispensing
Narrow mouth, without cap.

	Cap. ml	Neck	Pack qty.
Amber glass			
BR150-17	50	R3/22	80
BR150-29	100	R3/22	63
BR150-34	150	R3/22	49
BR150-40	200	R3/28	42
BR150-45	300	R3/28	36
BR150-50	500	R3/28	25


BR100


BR124


BR150


BR120 BR122


BR140 with BR142-06 and BR142-12


BR190

Bottles, Glass, Uncapped

Pharmaceutical

Bottles, Alpha Sirop
Narrow mouth, without cap.

	Cap. ml	Neck ROPP-*	Pack qty.
Clear glass			
BR154-30	100	28mm	80
BR154-40	200	28mm	67
BR154-45	300	28mm	48
BR154-50	500	28mm	35
Amber glass			
BR157-23	60	28mm	132
BR157-30	100	28mm	104
BR157-35	150	28mm	84
BR157-40	200	28mm	67
BR157-42	250	28mm	63
BR157-45	300	28mm	48
BR157-50	500	28mm	35

*For Roll-on aluminium, or plastic, Pilfer Proof (ROPP) caps. Will also accept R3/28 cap.

Powder

Bottles, powder
Wide mouth, without cap.

	Cap. ml	Neck	Pack qty.
Clear glass			
BR160-12	15	R3/28	140
BR160-18	30	R3/33	132
BR160-24	60	R3/38	72
BR160-33	4oz	R3/38	80
BR160-36	175	R3/48	53
BR160-41	250	R3/48	42
BR160-49	500	R3/58	33
Amber glass			
BR162-10	15	R3/28	140
BR162-17	30	R3/33	127
BR162-23	60	R3/38	72
BR162-31	100	R3/38	72
BR162-34	4oz	R3/38	68
BR162-37	175	R3/48	53
BR162-41	250	R3/48	42
BR162-44	300	R3/51	42
BR162-50	500	R3/58	28
BR162-80	1000	R3/63	12

Ointment and Tablet

Bottles (Jars) ointment
Extra wide mouth without cap.

	Cap. ml	Neck	Pack qty.
Clear glass			
BR165-12	15	R3/38	110
BR165-18	30	R3/38	110
BR165-24	60	R3/51	72
BR165-31	120	R3/58	48
BR165-50	500	R3/100	24

Bottles tablet
Wide mouth, cylindrical shape without cap.

	Cap.	Neck	Pack qty.
Amber glass			
BR174-14	¾ oz/20ml	R3/24	126
BR174-30	3 oz/100ml	R3/33	64

Caps – *see BR220 etc.*

Plastic tablet bottles – *see BR670.*



BR154



BR160



BR165



BR157



BR162



BR174

Accessory Caps for Glass Bottles

All caps are supplied in packs of 100.

	For neck
Black Plastic with woodpulp faced PVDC liner	
BR220-06	R3/20
BR220-09	R3/22
BR220-12	R3/24
BR220-15	R3/28
BR220-18	R3/33
BR220-21	R3/38
BR220-27	R3/48
BR220-30	R3/51
BR220-33	R3/58
BR220-36	R3/63
BR220-42	R3/100
Black Plastic with polyethylene cone liner	
BR222-06	R3/20
BR222-09	R3/22
BR222-12	R3/24
BR222-15	R3/28
BR222-51	R6/31
White Polypropylene, Wadless	
Can be autoclaved to 121°C.	
BR230-06	R3/20
BR230-09	R3/22
BR230-12	R3/24
BR230-15	R3/28
BR230-18	R3/33
BR230-21	R3/38
BR230-24	R3/48
BR230-32	R3/58
BR230-51	R6/31

	For neck
Enamelled Metal, Black, with waxed wood pulp liner	
BR240-18	R3/33
BR240-36	R3/63
Aluminium with rubber liner	
BR247-03	R3/18
BR247-06	R3/20
BR247-15	R3/28

Security Caps, Clic-Loc

Must be pressed down and turned to remove. Polyethylene with polypropylene inner (BR255-60 has an epe inner.

	For neck
BR255-06	R3/20
BR255-09	R3/22
BR255-12	R3/24
BR255-15	R3/28
BR255-18	R3/33
BR255-21	R3/38
BR255-60	PP28*

*To fit ROPP style 28mm neck.

Security Caps, tamper-evident

For ROPP style 28mm neck bottles only. White polypropylene with EPE liner and red tamper ring collar which separates from the cap when first opened. Pack of 100.

BR264-15 ROPP 28mm

Glass Bottles with Caps

	Cap. ml	*Neck/cap*	*Pack qty.*
Clear, sloping shoulder with aluminium cap and rubber liner			
BR350-42	200	R3/28	56
BR350-46	300	R3/28	36
Clear sloping shoulder with black plastic cap and PVDC liner			
BR352-36	150	R3/24	56
BR352-42	200	R3/28	56
BR352-46	300	R3/28	36
Clear winchester pattern with black plastic cap and PVDC liner			
BR362-50	500	R6/31	24

Aluminium caps

For Bijou and Universal Bottles – *see BR247.*

Plug stoppers – *see SW505 series.*





BR264 in use



BR352



BR350



BR362

Glass Bottles with Caps continued

Amber winchester pattern
With black polyethylene cap and cone liner.

	Cap. ml	Neck/cap	Pack qty.
BR372-50	500	R6/31	24
BR372-80	1000	R6/31	12
BR372-90	2000	R6/31	12
BR372-95	2500	R6/31	12

Important Warning
Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**

Wide mouth powder
With black plastic cap and PVDC liner.

	Cap. ml	Neck/cap	Pack qty.
Clear glass			
BR400-12	15ml	R3/28	140
BR400-18	30ml	R3/33	132
BR400-24	60ml	R3/38	72
BR400-33	4oz	R3/38	80
BR400-36	175ml	R3/48	53
BR400-41	250ml	R3/48	42
BR400-49	500ml	R3/58	33
Amber glass			
BR402-17	30ml	R3/33	127
BR402-23	60ml	R3/38	72
BR402-34	4oz	R3/38	68
BR402-41	250ml	R3/48	42
BR402-50	500ml	R3/58	28
BR402-80	1000ml	R3/63	12

Wide mouth powder
With white polypropylene wadless cap.

	Cap. ml	Neck/cap	Pack qty.
Clear glass			
BR404-33	4oz	R3/38	80
BR404-41	250	R3/48	42
BR404-49	500ml	R3/58	33
Amber glass			
BR406-34	4oz	R3/38	68
BR406-41	250ml	R3/48	42
BR406-50	500ml	R3/58	28

Ointment jar
Extra wide mouth with black plastic cap.

	Cap. ml	Neck/cap	Pack qty.
Clear glass			
BR410-24	60	R3/51	72
BR410-31	120	R3/58	48
BR410-50	500	R3/100	24

Alternative bottle/cap combinations are available – *details on request.*


BR372


BR402


BR406


BR400


BR404


BR410

Plastic, Narrow Mouth with Screwcap

Bottles, polyethylene
Narrow mouth with polypropylene cap.

BR600-30	100ml
BR600-42	250ml
BR600-50	500ml
BR600-80	1000ml

Bottles, polyethylene, leakproof
High quality translucent bottles of sturdy construction designed for laboratory use at an economical price. Narrow mouth with sloping shoulders and leakproof cap.

	Cap. ml	Pack qty.
BR604-24	50	50
BR604-30	100	20
BR604-34	250	50
BR604-40	500	50
BR604-52	1000	4
BR604-60	2000	10

Bottles, Azlon LDPE
Narrow mouth low density polyethylene with polypropylene leakproof cap.

	Ref. BNL-	Cap. ml	Pack qty.
BR610-18	0030PN	30	10
BR610-24	0060PN	60	10
BR610-30	0100PN	100	10
BR610-32	0125PN	125	10
BR610-36	0150PN	150	10
BR610-43	0250P	250	10
BR610-52	0500P	500	10
BR610-82	1000P	1000	5
BR610-92	2000P	2000	5

Bottles Azlon HDPE
Narrow mouth, high density polyethylene. With polypropylene leakproof cap. Has a chemical resistance superior to ordinary low density polyethylene.

	Ref. BNH-	Cap. ml	Pack qty.
BR615-18	0030PN	30	10
BR615-24	0060PN	60	10
BR615-30	0100PN	100	10
BR615-31	0125PN	125	10
BR615-36	0150PN	150	10
BR615-43	0250P	250	10
BR615-52	0500P	500	10
BR615-82	1000P	1000	5
BR615-92	2000P	2000	5

Bottles Nalgene HDPE
Narrow mouth, high density polyethylene. With polypropylene cap designed to be leakproof.

	Ref. 2002-	Cap. ml
BR618-06	9125	4
BR618-08	9025	8
BR618-10	9050	15
BR618-17	0001	30
BR618-23	0002	60
BR618-30	0004	125
BR618-36	0006	175
BR618-42	0008	250
BR618-50	0016	500
BR618-53	9016	500*
BR618-80	0032	1000*

*Bottles BR618-53 and BR618-80 have a longer neck and wider mouth to fit Eppendorf and Oxford bottle dispensers.

Bottles Nalgene polycarbonate
Narrow mouth. Transparent square shape with approximate permanent graduations. Can be autoclaved. With leakproof cap. The 2000ml size has moulded-in handgrips for easier pouring.

	Ref. 2015-	Cap. ml
BR626-17	0030	30
BR626-23	0060	60
BR626-30	0125	125
BR626-35	0250	250
BR626-50	0500	500
BR626-80	1000	1000
BR626-85	2000	2000

Bottles, Nalgene PET®†, Sterile
Square shape, transparent, narrow neck with high density, polyethylene leakproof screw closure. Inexpensive alternative to glass for storage of media. Bottles and closures are non-pyrogenic and supplied radiation sterilised. The 2000ml size has moulded-in handgrips for easier pouring. Packed in shrink-wrapped trays within an outer pack. Supplied in the pack quantity only.

	Ref. 2019-	Cap. ml	Neck mm	Pack qty.
BR632-17	0030	30	20	96
BR632-20	0060	60	24	96
BR632-23	0125	125	38	48
BR632-28	0250	250	38	48
BR632-34	0500	500	38	24
BR632-37	1000	1000	38	24
BR632-40	2000	2000	53	12

†PET = Polyethylene terephthalate copolyester.


BR600


BR610, BR615 is similar


BR626, 30 to 1000ml


BR626, 2000ml


BR604


BR618


BR632, 30 to 1000ml

Bottles, Plastic

Plastic with Screwcap continued

Bottles, polyethylene
White HDPE. With sloping shoulder and leakproof tamper-evident PP cap with PTFE cap seal. The 2500ml size has a carrying handle. Supplied in packs of 4.

	Cap. ml	Neck i.d. mm
BR642-41	500	29
BR642-51	1000	29
BR642-95	2500	29

Bottles, polypropylene, leakproof
High quality, sturdy, translucent bottles designed for laboratory use at an economical price. Narrow mouth with sloping shoulders and leakproof cap. Can be autoclaved to 132°C. Supplied in packs as indicated.

	Cap. ml	Pack qty.
BR644-08	10	100
BR644-12	20	100
BR644-17	30	100
BR644-24	50	1
BR644-30	100	1
BR644-34	250	50
BR644-42	500	1
BR644-52	1000	1
BR644-62	2000	1

Bottles, Azlon polypropylene
Narrow mouth with leakproof cap. Translucent and can be autoclaved to 121°C. Supplied in packs as indicated.

	Ref. BNP-	Cap. ml	Pack qty.
BR650-18	0030PN	30	10
BR650-24	0060PN	60	10
BR650-30	0100PN	100	10
BR650-32	0125PN	125	10
BR650-36	0150PN	150	10
BR650-44	0250P	250	10
BR650-52	0500P	500	10
BR650-82	1000P	1000	5
BR650-92	2000P	2000	5

PTFE bottles are available – *details on request.*

Plastic, Tablet/Vials

Bottles, tablet. Without Cap.
Amber polystyrene. Supplied in packs as indicated.

	Cap. ml	Neck	Pack qty.
BR670-12	16	R3/20	200
BR670-15	25	R3/22	200
BR670-18	32	R3/22	200
BR670-19	48	R3/24	200
BR670-24	66	R3/28	100
BR670-29	90	R3/28	100
BR670-31	112	R3/28	100
BR670-32	125	R3/28	100

Caps – *see BR220 etc.*

Vials
Amber polystyrene with polyethylene push-on closure. Supplied in packs as indicated.

	Cap. ml	Pack qty.
BR680-10	15	200
BR680-17	30	200
BR680-18	45	200
BR680-23	60	100
BR680-30	120	50



BR642



BR644

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**



BR650



BR670



BR680

Plastic, Wide Mouth

Bottles, Powder, Azlon HDPE

High density polyethylene. Wide mouth with black plastic cap. Ideal for containing powders or granules.

	Ref. BGC-	Cap. ml
BR750-35	428P	150
BR750-42	430P	250
BR750-45	432P	300
BR750-50	436P	500
BR750-80	440P	1000

Bottles, Azlon HDPE

High density polyethylene. Wide mouth with polypropylene leakproof cap.

	Ref.	Cap. ml	Pack qty.
BR752-18	BWH0030PN	30	10
BR752-24	BWH0060PN	60	10
BR752-30	BLH0100P	100	10
BR752-31	BWH0125P	125	10
BR752-36	BLH0150P	150	10
BR752-44	BWH0250PN	250	10
BR752-52	BWH0500PN	500	10
BR752-82	BWH1000PN	1000	5
BR752-92	BWH2000PN	2000	5

Bottles, polyethylene, leakproof

High quality, sturdy translucent bottles, designed for laboratory use at an economical price. Wide mouth with square shoulders and leakproof cap.

	Cap. ml	Pack qty.
BR756-22	50	100
BR756-30	100	20
BR756-36	250	10
BR756-42	500	10
BR756-52	1000	4
BR756-54	1500	4
BR756-62	2000	1

Bottles, polyethylene

Wide mouth with polyethylene cap and sealing ring.

BR760-10	300ml
BR760-20	700ml
BR760-30	1250ml

Bottles, Azlon amber polypropylene

Wide mouth with polypropylene leakproof cap. Autoclavable to 121°C.

	Ref. BWP-	Cap. ml	Pack qty.
BR764-24	0060AP	60	10
BR764-36	0150AP	150	10
BR764-44	0250AP	250	10
BR764-52	0500AP	500	10
BR764-82	1000AP	1000	5
BR764-92	2000AP	2000	5

Important Warning Sterilising Bottles

Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**



BR750



BR756



BR764



BR752



BR760

Plastic, Wide Mouth continued

Bottles, polypropylene, leakproof

High quality, sturdy translucent bottles designed for laboratory use at an economical price. Wide mouth with square shoulders and leakproof cap and blue printed graduations. Can be autoclaved to 121°C.

	Cap. ml	Pack qty.
BR767-80	100	50
BR767-85	250	25
BR767-90	500	25
BR767-95	1000	10

Bottles, Azlon polypropylene

Wide mouth with polypropylene leakproof cap. Autoclavable to 121°C.

	Ref.	Cap. ml	Pack qty.
BR770-18	BWP0030PN	30	10
BR770-24	BWP0060PN	60	10
BR770-30	BLP0100P	100	10
BR770-32	BLP0125P	125	10
BR770-36	BLP0150P	150	10
BR770-44	BWP0250PN	250	10
BR770-52	BWP0500PN	500	10
BR770-82	BWP1000PN	1000	5
BR770-92	BWP2000P	2000	5

Bottles, Nalgene HDPE

Wide mouth with leakproof polypropylene screw cap. Suitable for dry materials or liquids.

	Ref. 2104-	Cap. ml
BR775-17	0001	30
BR775-23	0002	60
BR775-32	0004	125
BR775-42	0008	250
BR775-50	0016	500
BR775-80	0032	1000

Bottles, Kartell HDPE

Wide mouth high density polyethylene with polyethylene cap, insert plug and tagging points. Square shape. Supplied singly.

	Cap. ml
BR790-15	25
BR790-20	50
BR790-30	100
BR790-42	250
BR790-50	500
BR790-80	1000
BR790-90	2000

Bottles, HDPE

Wide mouth, square shape high density polyethylene bottles with polyethylene cap and push-in seal. Supplied singly.

	Cap. ml
BR792-50	500
BR792-80	1000
BR792-90	2000

Labelled plastic reagent bottles – *see BS600*.

Important Warning Sterilising Bottles

Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**



BR767



BR775



BR792



BR770



BR790

Plastic, Wide Mouth continued

Bottles, HDPE

Wide mouth with leakproof closures in HDPE having LDPE foam inlay wads. Designed for the storage of powders. Square shape. Supplied singly.

	Ref. BGE-	Cap. ml
BR800-23	—	60
BR800-30	—	100
BR800-32	—	125
BR800-42	—	250
BR800-50	436P	500
BR800-80	439P	1000
BR800-85	441P	1500

Bottles, Nalgene HDPE

Wide mouth with leakproof polypropylene cap. Withstand freezer use down to -100°C.

	Ref. 2114-	Cap. ml
BR807-42	0008	250
BR807-50	0016	500
BR807-80	0032	1000

Bottles, HDPE

Wide mouth, square shaped, in natural or white high density polyethylene, with blue polypropylene tamper-evident cap with conical internal seal. UN-approved for the transport of solids (except 50ml sizes). Supplied in packs as indicated.

	Cap. ml	Pack qty.
Natural		
BR815-20	50*	10
BR815-30	100	10
BR815-42	250	10
BR815-50	500	10
BR815-80	1000	5
BR815-85	1500	5
BR815-97	2500	5
White		
BR817-20	50*	10
BR817-30	100	10
BR817-42	250	10
BR817-50	500	10
BR817-80	1000	5
BR817-85	1500	5
BR817-97	2500	5

*Not UN-approved

Bottles, PVC

Transparent or amber PVC, extra-wide neck with leakproof black PP cap with PE-foam liner. Ideal for viewing contents, and easy to fill and clean. The amber versions are suitable for storing light-sensitive products. Supplied singly.

	Cap. ml	Neck i.d. mm
Transparent		
BR865-20	50	23
BR865-30	100	31
BR865-45	300	41
BR865-50	500	54
BR865-80	1000	69
BR865-92	2000	69
Amber		
BR867-20	50	23
BR867-30	100	31
BR867-45	300	41
BR867-50	500	54
BR867-80	1000	69
BR867-92	2000	69

Important Warning Sterilising Bottles

Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**



BR800



BR815, BR817 are similar



BR865 *BR867*



BR807

Bottles, Plastic

Plastic, Large Capacity, Cylindrical

Bottles, polyethylene
Robust medium wall with screw cap. All have one handle except the 50 litre which has two. The 5 and 10 litre are hexagonal. Supplied singly.

	Cap. litres
BR900-10	5
BR900-20	10
BR900-30	25
BR900-40	50

Bottles, Nalgene polypropylene
With integral carrying handles, leakproof polypropylene screw cap and approximate graduations. Can be autoclaved. Not recommended for use with hazardous materials. Supplied singly.

	Ref. 2250-	*Cap. litres*
BR914-20	0020	10
BR914-30	0050	20
BR914-40	0130	50

Bottles, Nalgene Clearboys™ polycarbonate
Transparent. With leakproof polypropylene screw cap and approximate graduations. Can be autoclaved. Not recommended for use with hazardous materials. Supplied singly.

	Ref. 2251-	*Cap. litres*
BR917-22	0020	10
BR917-32	0050	20

Bottles, Kartell HDPE
Robust, heavy walled, wide mouth, ideal for liquids or powders. With insert plug, tagging points and carrying handle. Supplied singly.

BR922-15 5 litres
BR922-25 10 litres

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**

Carboys, Kartell HDPE
Strong, lightweight cylindrical carboys suitable for holding foodstuffs, with narrow mouth central filling/vent cap and handle in blue (25 litre and 50 litre sizes have 2 handles).

BR927-05 5 litre
BR927-12 10 litre
BR927-15 25 litre
BR927-25 50 litre

Kegs, HDPE
White. With extra-wide mouth for easy filling. Ideal for waste disposal or storage of liquids, powders or granules. With red, leakproof PE cap, suitable for tag sealing. UN-approved to schedule X cat. I, II and III. Supplied singly.

	Cap. litres	*Dia. x ht. mm*	*Neck i.d. mm*
BR928-30	10	270 x 240	200
BR928-35	26	316 x 424	204
BR928-43	33	338 x 450	295


BR900


BR917-22/BR917-32


BR927


BR914


BR922


BR928 in use

Plastic, Large Capacity, Square, Octagonal and Rectangular

Bottle, HDPE, square
Natural HDPE. Ideal for storage and transport of solid materials. Space saving square design with moulded-in handgrip for safe convenient carrying. Wide neck for easy filling and supplied with blue PP cap with internal conical seal and tamper-evident ring. Overall 135 x 135 x 195mm high, neck i.d. 69mm. Supplied singly.

BR931-05 2300ml

Bottles, Azlon polypropylene, octagonal
Heavy duty rigid construction with offset neck, leakproof screwcap, approximate graduations and integral carrying handle. Can be autoclaved.

	Ref.	*Capacity litres*
BR932-30	BNP05B	5
BR932-40	BNP10B	10
BR932-50	BNP20B	20

Jerrycans, Azlon rigid polyethylene, rectangular
Robust, lightweight with screw cap and integral handle.

BR935-30 5 litre
BR935-40 10 litre
BR935-50 25 litre

Jerrycans, rigid polyethylene, UN certified
Robust, stackable, food grade polyethylene jerrycans with tamper-evident screw cap.

	Capacity litres	*Cap type*
BR937-30	5	DIN51
BR937-40	10	DIN51
BR937-50	20	DIN61
BR937-55	30	DIN61

Aspirator stopcocks to fit BR937 jerrycans - *see SV942.*

Glass, Culture and Specimen

Bottles, culture
Clear glass. All caps where specified have a rubber liner.

		Capacity	*Pack qty.*
With aluminium screw cap, plain			
BS150-10	Bijou	7ml (¼oz)	288
BS150-15	Bijou	14ml (½oz)	288
BS150-25	Universal	28ml (1oz)	144
Without cap			
BS152-10	Bijou	7ml (¼ oz)	255
BS152-15	Bijou	14ml (½oz)	288
BS152-25	Universal	28ml (1oz)	150

Caps for BS150/152
Aluminium with rubber liner. Supplied in packs of 100.

BR247-06 For 7ml and 14ml Bijou size R3/20
BR247-15 For 28ml Universal size R3/28

Caps, Sterilin, polypropylene
Wadless, non-sterile. Supplied in pack of 2850.

BS165-10 For 28ml Universal size R328

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**


BR931-05


BR935


BS150


BR932


BR937


BS152

Sterilin now sold as Thermo SCIENTIFIC Disposable Specimen Containers

◆ CE-marked in accordance with the in-vitro diagnostic (I.V.D.) medical devices directive (93/42/EC). ◆ Leak-free in accordance with EN14254 Annexe D.

The table below is coded as follows:

G = Glass **Ir** = Gamma Irradiation **-L** = Leak proof cap **Me** = Metal **NS** = Non Sterile
Pe = Polyethylene **Pp** = Polypropylene **Ps** = Polystyrene **S** = Sterile aseptic production

	Ref.		*Container/Description*	*Cap*	*Pack qty.*
BS200-07	128A†	S	30ml Universal, no label	Ps/Pp-L	400
BS200-12	128B†	S	30ml Universal, printed label	Ps/Pp-L	400
BS200-17	128C†	S	30ml Universal, plain label	Ps/Pp-L	400
BS200-22	39404	NS	30ml Universal, no label	G/Pp	350
BS200-30	128SA	S	30ml Universal, Spoon, no label	Ps/Pe-L	400
BS200-35	128SB	S	30ml Universal, Spoon, printed label	Ps/Pe-L	400
BS200-40	128SC	S	30ml Universal, Spoon, plain label	Ps/Pe-L	400
BS200-47	128BBAC†	S	30ml Universal, Boric Acid, labelled	Ps/Pp-L	400
BS204-05	129B-BAC	S	7ml Bijou, Boric Acid, labelled	Ps/Pe	700
BS204-10	129A	S	7ml Bijou, no label	Ps/Pe	700
BS204-15	129B*	S	7ml Bijou, plain label	Ps/Pe	700
BS208-05	125AM†	S	60ml, no label,	Ps/Me-L	300
BS208-10	125BM*†	S	60ml, printed label	Ps/Me-L	300
BS208-15	125CM†	S	60ml, plain label	Ps/Me-L	300
BS208-20	125AP	S	60ml, no label	Ps/Pe	300
BS208-25	125BP	S	60ml, printed label	Ps/Pe	300
BS208-30	125CP	S	60ml, plain label	Ps/Pe	300
BS212-05	185AM	S	100ml, no label	Ps/Me-L	200
BS212-10	185BM*	S	100ml, printed label	Ps/Me-L	200
BS212-15	185CM	S	100ml, plain label	Ps/Me-L	200
BS212-17	185AP	S	100ml, no label	Ps/Pe	200
BS212-19	185BP	S	100ml, printed label	Ps/Pe	200
BS212-22	185CP	S	100ml, plain label	Ps/Pe	200
BS212-25	165A	S	150ml, no label	Ps/Me-L	120
BS212-30	165B*	S	150ml, printed label	Ps/Me-L	120
BS212-35	165C	S	150ml, plain label	Ps/Me-L	120
BS216-05	190A	S	250ml, unlabelled	Ps/Me-L	50
BS216-07	190A/1	S	250ml, unlabelled, tray packed, shrink wrapped	Ps/Me-L	50
BS216-10	190B*	S	250ml, printed label	Ps/Me-L	50
BS216-12	190B/1	S	250ml, printed label, tray packed, shrink wrapped	Ps/Me-L	50
BS216-15	190C	S	250ml, plain label	Ps/Me-L	50
BS216-20	193A	S	250ml, polypropylene, no label	Pp/Me-L	50
BS216-35	191	Ir	30ml Dippa – sampler with integral handle	Ps/Pp-L	50
BS216-37	194I/W	Ir	100ml Dippa – sampler with integral handle	Ps/Me-L	100
BS216-40	192	Ir	250ml Dippa – sampler with integral handle	Ps/Me-L	50
BS240-60	Z5PS	NS	5ml, blood specimen, printed label	Ps/Pp	1000
BS240-65	Z5PSNL	NS	5ml, blood specimen, no label	Ps/Pp	1000
BS240-70	Z10PS	NS	10ml, blood specimen, printed label	Ps/Pp	500
BS240-75	Z10PSNL	NS	10ml, blood specimen, no label	Ps/Pp	500

*Non-pyrogenic versions of these containers are available - *details on request.*
†Certified to remain leak-free at 95kPa pressure differential.

Double-bagged containers for sterile sampling of tissue and fluids - *see Clinical section.*





Colour Coded Specimen Containers

Labplex

Designed primarily for use in the food and beverage industries. Disposable, aseptically produced, containers with coloured screw caps and/or bodies. With polypropylene bodies and polyethylene caps.

	Ref. LXP-	Cap. ml	Colour* Body	Cap	Plain Label	Pack qty.
BS224-10	30L	30	C	W	✓†	1000
BS224-22	40	40	C	W	—	1000
BS224-25	40L	40	C	W	✓	1000
BS224-31	B40	40	B	B	—	1000
BS225-11	60	60	C	W	—	700
BS225-14	60L	60	C	W	✓	700
BS225-20	60R	60	C	R	—	700
BS225-23	60LR	60	C	R	✓	700
BS225-29	B60	60	B	B	—	700
BS225-32	B60L	60	B	B	✓	700
BS230-11	125	125	C	W	—	380
BS230-15	125L	125	C	W	✓	380
BS230-21	125R	125	C	R	—	380
BS230-24	125B	125	C	B	—	380
BS230-40	B125L	125	B	B	✓	380
BS235-12	180	180	C	W	—	264
BS235-16	180L	180	C	W	✓	264
BS235-33	180LR	180	C	R	✓	264
BS235-42	B180	180	B	B	—	264
BS235-46	B180L	180	B	B	✓	264

*Colour code:- B = blue, C = clear, R = red, W = white.

†BS224-10 has a printed label.

Disposable Blood Specimen Containers

Polystyrene or polypropylene specimen containers with wadless, leakproof polypropylene screw caps and printed label. Prefilled with anticoagulant as indicated. Non sterile.

	Description	Pack qty.
Polystyrene containers		
BS242-05	2.5ml EDTA	1000
BS242-15	4ml EDTA	1000
BS242-40	5ml Lithium Heparin	1000
BS242-50	10ml Lithium Heparin	500
BS242-80	2.5ml Fluoride Oxalate	1000
Polypropylene containers		
BS248-05	2.5ml EDTA	1000
BS248-15	4ml EDTA	1000
BS248-40	5ml Lithium Heparin	1000
BS248-50	10ml Lithium Heparin	500
BS248-80	2.5ml Fluoride Oxalate	1000

Tissue Culture Roller Bottles - *see Tissue Culture section.*

Azlon Specimen Containers - *see Tubes section.*



BS224/BS235



BS242/BS248

Glass Reagent, Plain Neck

Narrow Mouth

Bottles, reagent
Narrow mouth with stopper.

	Cap. ml	Stopper size
Clear glass, polypropylene stopper		
BS400-17	30	16/16
BS400-20	50	16/16
BS400-30	100	16/16
BS400-42	250	24/20
BS400-50	500	24/20
BS400-80	1000	29/32
Clear glass, amber glass stopper		
BS402-17	30	16/16
BS402-20	50	16/16
BS402-30	100	16/16
BS402-42	250	24/20
BS402-50	500	24/20
BS402-80	1000	29/32
Amber glass, polypropylene stopper		
BS404-23	50	16/16
BS404-30	100	16/16
BS404-42	250	24/20
BS404-50	500	24/20
BS404-80	1000	29/32
Amber glass, amber glass stopper		
BS406-23	50	16/16
BS406-30	100	16/16
BS406-42	250	24/20
BS406-50	500	24/20
BS406-80	1000	29/32



BS400



BS404



BS402



BS406

Narrow Mouth, Pyrex®

Bottles, reagent, Pyrex 1526 series, unstoppered
Narrow mouth with unground neck and without stopper. Comply with ISO4796.

	Ref.	Cap. ml
BS415-30	1526/04	100
BS415-42	1526/06	250
BS415-50	1526/08	500
BS415-80	1526/10	1000
BS415-90	1526/12	2000
BS415-93	1526/16	5000
BS415-95	1526/18	10000
BS415-96	1526/20	15000
BS415-97	1526/22	20000

Bottles, reagent, Pyrex 1521 series, glass stoppered
Narrow mouth with ground neck and glass stopper. Comply with ISO4796.

	Ref.	Cap. ml	Stopper size
BS420-30	1521/04	100	14/15
BS420-42	1521/06	250	19/26
BS420-50	1521/08	500	24/29
BS420-80	1521/10	1000	29/32
BS420-90	1521/12	2000	29/32
BS420-93	1521/16	5000	45/40
BS420-95	1521/18	10000	60/46
BS420-97	1521/22	20000	60/46

Spare glass stoppers
For 1521 series.

	Ref.	Stopper size
BS422-04	1522/02	14/15
BS422-08	1522/04	19/26
BS422-12	1522/05	24/29
BS422-16	1522/06	29/32
BS422-24	1522/10	45/40
BS422-28	1522/12	60/46



BS415 BS420

Bottles, Glass Reagent

Glass Reagent, Screw Neck, Pyrex®

Pyrex 1515 series, narrow mouth, round shape
With SVL black phenolic screw cap and PTFE faced sealing disc. Can be dry heat or steam sterilised at 121°C. With approximate graduations.

	Ref.	*Capacity ml*	*Cap size mm*
BS430-15	1515/01	25	20
BS430-20	1515/02	50	25
BS430-30	1515/04	100	25
BS430-42	1515/06	250	30
BS430-50	1515/08	500	30
BS430-80	1515/10	1000	42
BS430-90	1515/12	2000	60
BS430-93	1515/16	5000	60
BS430-95	1515/18	10000	60
BS430-96	1515/20	15000	60
BS430-97	1515/22	20000	60

Spare SVL Screwcaps

SW460-20	Size 20
SW460-25	Size 25
SW460-30	Size 30
SW460-42	Size 42
SW460-60	Size 60

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**



BS430

Glass Reagent, Screw Neck, Wide Mouth, Square Shape, Pyrex®

Pyrex 1520 series, wide mouth, square shape
With polypropylene screw cap and clear pouring ring which ensure smooth transfer of contents without drips. Square shape allows closer fitting in water baths or on shelves and offers up to 20% saving of space in comparison to similar round bottles. Can be used up to140°C. With approximate graduations.

	Ref.	*Capacity ml*	*Cap size mm*
BS432-30	1520/04	100	32
BS432-42	1520/06	250	45
BS432-50	1520/08	500	45
BS432-80	1520/10	1000	45

Culture Bottles – *see Tissue Culture section.*

Dropper Bottles, Eye Dropper Bottles – *see Medical section.*

Reagent bottles, plastic – *see BR756.*

Safety Signs and Tapes – *see Safety section.*

Specimen Tubes – *see Tubes section.*

Spill mats and bench protection – *see Safety section.*

Trays – *see TT210.*

Washbottles – *see Washing section.*



BS432

Glass Reagent, Screw Neck, Wide Mouth, Round Shape, Pyrex®

Pyrex 1516 series, capped. To ISO4796
Supplied with polypropylene screw cap and clear pouring ring (except 25ml size) which ensures smooth transfer of contents without drips. Can be used up to 140°C. With approximate graduations and trace code which allows a bottle to be traced to its point of production.

Pyrex 1517 series, uncapped
As 1516 series but supplied without cap and pouring ring.

Pyrex 1518 series, safety coated, uncapped
As 1517 series but with plastic coating to protect against mechanical damage. The coating remains transparent after repeated autoclaving up to 135°C and is UV absorbent to 380nm. This allows use in a similar way to amber bottles. Supplied without cap or pouring ring.

Pyrex 1519 series, amber, uncapped
As 1517 series but manufactured from amber borosilicate glass. UV absorbent to 500nm. Without cap and pouring ring.

Cap. ml	*Cap size mm*	*Size Ref. (Series Code-)*	*Series Code 1516*	*Series Code 1517*	*Series Code 1518*	*Series Code 1519*
25	25	/01	BS435-15	BS440-15	—	BS444-15
50	32	/02	BS435-20	BS440-20	—	BS444-20
100	45	/04	BS435-30	BS440-30	BS443-32	BS444-30
250	45	/06	BS435-42	BS440-42	BS443-44	BS444-42
500	45	/08	BS435-50	BS440-50	BS443-52	BS444-50
1000	45	/10	BS435-80	BS440-80	BS443-65	BS444-80
2000	45	/12	BS435-90	BS440-93	BS443-70	BS444-93
5000	45	/16	BS435-93	BS440-95	BS443-77	BS444-95
10000	45	/18	BS435-95	BS440-97	BS443-90	BS444-97
15000	45	/20	BS435-97	BS440-98	—	—
20000	45	/22	BS435-99	BS440-99	—	—

Standard Spares and Accessories
All items are polypropylene.

BS437-04 Screw cap size 25, blue
BS437-06 Screw cap size 32, blue
BS437-09 Screw cap size 45, blue
BS437-12 Pouring ring size 32
BS437-15 Pouring ring size 45

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**

High Temperature Accessories
Enable bottles to be used up to 200°C.

BS437-17 PBTP screw cap size 25, red
BS437-18 PBTP screw cap size 32, red
BS437-21 PBTP screw cap size 45, red
BS437-24 ETFE pouring ring size 32
BS437-27 ETFE pouring ring size 45

PBTP - Polybutylene terephthalate
ETFE - Ethylenetetrafluoroethylene copolymer



BS435 BS440 BS443 BS444

Glass Reagent, Screw Neck, Wide Mouth, Round shape, Duran®

Duran 21801 series, capped
Supplied with polypropylene screw cap and pouring ring (except 25ml size) for drip free pouring. Bottle, cap and pouring ring can be autoclaved up to 140°C. With approximate graduations.

Duran 21805 series, safety coated, uncapped
Similar to 21801 series but with plastic coating to protect against mechanical damage. The coating remains transparent after repeated autoclaving up to 135°C and is UV absorbent to 380nm. This allows use in a similar way to amber bottles. Without cap or pouring ring.

Cap. ml	*Cap size mm*	*Plain*	*Ref.*	*Safety coated*	*Ref.*
25	25	***BS445-15***	21801-145	—	—
50	32	***BS445-18***	21801-175	—	—
100	45	***BS445-20***	21801-245	***BS445-60***	21805-24
250	45	***BS445-23***	21801-365	***BS445-63***	21805-36
500	45	***BS445-26***	21801-445	***BS445-66***	21805-44
1000	45	***BS445-30***	21801-545	***BS445-70***	21805-54
2000	45	***BS445-33***	21801-635	***BS445-73***	21805-63
5000	45	***BS445-36***	21801-735	***BS445-76***	21805-73
10000	45	***BS445-40***	21801-865	—	—

Standard Spares and Accessories
All items are polypropylene.

BS447-55 Screw cap size 25, blue
BS447-57 Screw cap size 32, blue
BS447-60 Screw cap size 45, blue
BS447-62 Pouring ring size 32
BS447-63 Pouring ring size 45

High Temperature Accessories
Enable bottles to be used up to 200°C.

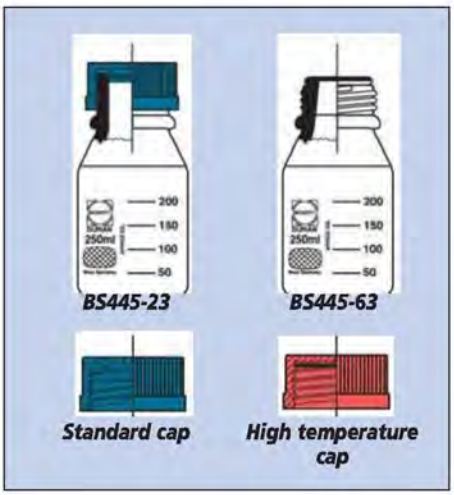
BS447-65 PBTP screw cap size 25, red
BS447-67 PBTP screw cap size 32, red
BS447-70 PBTP screw cap size 45, red
BS447-72 ETFE pouring ring size 32
BS447-73 ETFE pouring ring size 45

PBTP - Polybutylene terephthalate
ETFE - Ethylenetetrafluoroethylene copolymer

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**



BS445-26 ***BS445-66 with high temperature cap***



Bottles, Glass Reagent

Glass Reagent Plain Neck, Wide Mouth

Bottles, reagent, wide mouth
Clear glass with glass dustproof stopper.

	Capacity ml
BS450-20	50
BS450-25	100
BS450-42	250
BS450-50	500
BS450-80	1000

Culture Bottles – *see Tissue Culture section.*

Dropper Bottles, Eye Dropper Bottles – *see Medical section.*

Reagent bottles, plastic– *see BR756.*

Safety Signs and Tapes – *see Safety section.*

Specimen Tubes – *see Tubes section.*

Washbottles – *see Washing section.*

Important Warning Sterilising Bottles
Some bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**

Glass Reagent, Labelled

With PVC safety coating which covers both bottle and label for added protection.

Bottles, Volac labelled reagent
Clear PVC safety coated glass with interchangeable polypropylene stopper except where otherwise stated.

Title		*Capacity 250ml*	*Capacity 500ml*
Acetic Acid Dil.		BS500-03	BS505-03
Acetic Acid, Glacial		BS500-06	BS505-06
Ammonia Soln. Dil.		BS500-09	BS505-09
Ammonia Conc.		BS500-12	BS505-12
Barium Chloride		BS500-15	BS505-15
Bromine Water	(A), (G)	BS500-18	BS505-18
Copper (II) Sulphate		BS500-21	BS505-21
Ethanol		BS500-24	BS505-24
Fehlings Soln. No. 1		BS500-27	BS505-27
Fehlings Soln. No. 2		BS500-30	BS505-30
Hydrochloric Acid Dil.		BS500-33	BS505-33
Hydrochloric Acid Conc.	(G)	BS500-36	BS505-36
Lead (II) Acetate		BS500-39	BS505-39
Lime Water		BS500-42	BS505-42
Nitric Acid Dil.		BS500-45	BS505-45
Nitric Acid Conc.	(A), (G)	BS500-48	BS505-48
Potassium Dichromate (VI)		BS500-51	BS505-51
Potassium Hydroxide		BS500-54	BS505-54
Potassium Iodide		BS500-57	BS505-57
Potassium Manganate (VII)		BS500-60	BS505-60
Propanone (Acetone)		BS500-63	BS505-63
Silver Nitrate	(A)	BS500-66	BS505-66
Sodium Carbonate		BS500-69	BS505-69
Sodium Hydroxide Dil.		BS500-72	BS505-72
Sodium Hydroxide Conc.		BS500-75	BS505-75
Sulphuric Acid Dil.		BS500-78	BS505-78
Sulphuric Acid Conc.	(G)	BS500-81	BS505-81

(A) Indicates Amber Glass Bottle. (G) Indicates Glass Stopper.



BS450



BS500/BS505

Glass Reagent, Sandblast Labelled

With sandblasted letters within a border. BS520 series have a plain sandblast area, easily marked by the user with most types of pen or pencil.

Bottles, reagent, sandblast labelled
Clear glass with interchangeable polypropylene stopper except where otherwise stated.

Title		*Capacity 250ml*	*Capacity 500ml*
Plain sandblast area for marking		BS520-03	BS520-05
Acetic Acid Dil.		BS522-03	BS526-03
Acetic Acid, Glacial		BS522-05	BS526-05
Acetone		BS522-08	BS526-08
Alcohol		BS522-12	BS526-12
Ammonia Sol. Conc.		BS522-15	BS526-15
Ammonia Sol. Dil.		BS522-17	BS526-17
Ammonium Carbonate		BS522-22	BS526-22
Ammonium Chloride		BS522-25	BS526-25
Ammonium Hydroxide Conc.		BS522-28	BS526-28
Ammonium Hydroxide Dil.		BS522-30	BS526-30
Ammonium Sulphate		BS522-36	BS526-36
Barium Chloride		BS522-45	BS526-45
Calcium Hydroxide		BS522-59	BS526-59
Carbon Tetrachloride		BS522-65	BS526-65
Chloroform	(A),(G)	BS522-68	BS526-68
Copper Sulphate		BS522-72	BS526-72
Ether	(A),(G)	BS522-80	BS526-80
Ethyl Acetate		BS522-83	BS526-83
Fehlings Sol. No. 1		BS522-88	BS526-88
Fehlings Sol. No. 2		BS522-90	BS526-90
Ferric Chloride		BS523-04	BS527-04
Hydrochloric Acid Conc.		BS523-15	BS527-15
Hydrochloric Acid Dil.		BS523-17	BS527-17
Hydrogen Peroxide	(A)	BS523-20	BS527-20
Lead Acetate		BS523-25	BS527-25
Lime Water		BS523-32	BS527-32
Nitric Acid Conc.	(A),(G)	BS523-36	BS527-36
Nitric Acid Dil.		BS523-38	BS527-38
Potassium Hydroxide		BS523-52	BS527-52
Potassium Iodide		BS523-55	BS527-55
Potassium Permanganate		BS523-58	BS527-58
Silver Nitrate	(A),(G)	BS523-65	BS527-65
Sodium Carbonate		BS523-68	BS527-68
Sodium Chloride		BS523-72	BS527-72
Sodium Hydroxide		BS523-75	BS527-75
Sodium Hydroxide Dil.		BS523-77	BS527-77
Sulphuric Acid Conc.		BS523-83	BS527-83
Sulphuric Acid Dil.		BS523-85	BS527-85

(A) Indicates amber glass bottles. (G) Indicates glass stopper.



BS522/BS523



BS526/BS527

Plastic Reagent, Labelled

Azlon

- Graduated in ml and fl.oz
- Leakproof wide mouth
- Autoclavable to 121°C
- Transparent — easy to view contents
- Large, white, plain writing area

Bottles, reagent, plastic, labelled
Transparent polypropylene. With dual graduations (ml and fl.oz), plain writing area and cap. Supplied in packs as indicated.

	Ref.	*Cap. ml*	*Pk. qty.*
BS600-24	BWP0060PGRAD	60	10
BS600-31	BLP0125PGRAD	125	10
BS600-43	BWP0250PGRAD	250	10
BS600-52	BWP0500PGRAD	500	10
BS600-82	BWP1000PGRAD	1000	5

Ink Markers, Laboratory
Ideal for marking polystyrene petri dishes, metal, glass and most plastics, cold (above 0°C) or moist surfaces. Water and alcohol resistant, autoclavable ink. Can be removed from non-porous surfaces by scrubbing with detergent. Colours as indicated. Supplied singly.

LA620-04 Black
LA620-08 Red
LA620-12 Blue
LA620-16 Green


BS600

Glass, Dropping and Dispensing

Bottles, dropper
Amber soda-lime glass. Hexagonal ribbed shape with plastic cap, rubber teat and glass pipette.

	Cap. ml	*Pack qty.*
BS700-05	10	25

Bottles, dropper
Amber glass, round shape with plastic cap, rubber teat and glass pipette.

	Cap. ml	*Pack qty.*
Soda-lime amber glass		
BS707-14	15	25
BS707-16	30	100

Bottles, dropping
Clear glass with stopper, vinyl teat and glass pipette.

	Cap. ml
Glass stopper	
BS720-17	30ml
BS720-24	50ml
BS720-30	100ml
Plastic stopper	
BS722-17	30ml
BS722-24	50ml
BS722-30	100ml

Bottles, dropping TK Pattern
With ground-in slotted flat-head stopper.

Clear glass	
BS740-20	50ml
BS740-30	100ml
Amber glass	
BS742-20	50ml
BS742-30	100ml

Bottles, dispensing
Clear glass with plastic stopper, vinyl teat and graduated pipette.

	Cap. ml	*Pipette ml*
BS750-30	100	1 x 0.5
BS750-42	250	8 x 0.2
BS750-50	500	10 x 0.2

Bottle mounting Dispensers – *see Dispensers section.*

Dispensing Measures – *see Measures section.*

Pipettors – *see Pipettes section.*



BS700



BS720



BS740 ***BS742***



BS707



BS722



BS750

Bottles, Plastic, Dispensing, Special

Plastic, Dropping and Dispensing

Bottle, Azlon dropper
Polyethylene with detachable cap, 15ml capacity.

	Ref.	Colour
BS800-20	EGR336P	Amber

Bottles, Azlon dropping
Polyethylene with bellows dropping pipette. Capacities are bottle volume/dispensed volume.

	Ref.	Cap. ml
BS805-17	BGE614P	30/2.5
BS805-24	BGE620P	60/2.5
BS805-35	BGE628P	150/4
BS805-42	BGE630P	250/4

Bottles, Azlon dispensing
Polyethylene with pivoting nozzle which can be raised to give a directable jet of liquid as the bottle is squeezed.

	Ref.	Cap. ml
Natural polyethylene		
BS815-17	BGE514P	30
BS815-24	BGE520P	60
BS815-35	BGE528P	150
BS815-42	BGE530P	250
BS815-50	BGE536P	500

Bottles, Azlon dispensing
LDPE with dropper nozzle and captive cap.

	Ref.	Cap. ml
BS820-17	BGE814PNC	30
BS820-24	BGE820PNC	60
BS820-32	BGE828PNC	150
BS820-42	BGE830PNC	250
BS820-50	BGE836PNC	500

Bottles, pump dispensing
Polyethylene bottle (except BS825-50 which is PVC) with polypropylene closure and pump. Capacities are bottle volume/dispensed volume.

	Cap. ml
BS825-32	125/0.5
BS825-42	250/4
BS825-50	500/4

Bottles, spray atomising
Polyethylene (except BS830-50 which is PVC). Produces fine spray when top is pumped.

	Cap. ml
BS830-17	30
BS830-24	60
BS830-32	125
BS830-42	250
BS830-50	500

Special Purpose

Bottles, B.O.D.
Clear glass with hollow glass peg stopper with cone point. Used for the Biological Oxygen Demand test on water samples.

	Capacity
BS900-42	250ml
BS900-50	500ml

B.O.D testing – *see Dissolved oxygen section.*

Cooled Incubators for B.O.D. testing – *see Incubator section.*

Bottles, Kilner type
Clear glass with a lacquered metal plate with flowed-in plastic seal on the underside and separate metal screw collar.

BS910-40 500ml
BS910-75 1000ml

Bottles, Kilner type
Clear glass with flat glass top and rubber sealing ring. The flat top is held in place by a wire clamp.

BS910-85 1500ml

Bottle, oil sample
Clear glass. Neck sealed by a cork.

BS920-10 225ml

Eye-Wash Bottles – *see Safety section.*

Washbottles – *see Washing section.*

Safety signs and tapes – *see Safety section.*


BS800-20


BS820


BS815


BS900 BS920


BS805


BS825


BS830


BS910-40 and BS910-75 BS910-85

Bottles, Bottle Accessories

Aluminium bottles

- Pure aluminium (Al 99.5)
- Seamless
- Lightweight

Ideal for transportation or storage of sensitive materials or reference samples that must remain contamination-free. Odourless, impermeable to light and corrosion resistant. Comply with the PCB regulations. With polypropylene, tamper-evident screw cap with internal aluminium sealing wad. Supplied singly.

	Cap. ml	*Dia. x H, mm*
BS980-15	38	35 x 70
BS980-25	60	40 x 88
BS980-35	120	57 x 97
BS980-45	300	57 x 160
BS980-55	600	74 x 192
BS980-65	1200	88 x 248

Aluminium foil - *see AL200.*

Aluminium basins - *see BF550.*

Bottle Carriers

Bottle carriers, wire, Azlon
Epoxy coated steel wire for carrying up to six bottles or washbottles.

	Ref.	*For bottles max. diameter*
BT512-10	BGS040	60mm
BT512-20	BGS042	74mm

Bottle carrier, wire
Nylon coated steel. Accepts 2 x 2.5 litre Winchester type bottles. With handle.

BT520-10 Wire carrier

Bottle store
Stove painted, heavy gauge steel with hinged lid, toggle catch and swivel castors for mobility. Contains a removable stainless steel spillage tray accommodating 8 x 2.5L winchester or 'Euro'-type bottles. Internal dimensions 620 x 320 x 360mm high.

BT550-37 Bottle store

Spill Containment
We offer a wide range of products for containing spillage safety.

- Absorbent Papers for protecting benches
- Highly Absorbent Powders and Pads for containing and binding spillage rapidly

For full details of these products - *see SA200 to SA235 in the Safety Section.*

Safety Stores for storing small quantities of acids and flammable liquids – *see SB840 to SB875 in the Safety Section.*

Spill Trays

Tough deep trays in white polypropylene. Resistant to most common acids, alkalis and solvents. With polished surface which is easy to clean.

	Cap. litres	*External L x W x D, mm*
TT210-12	0.5	180 x 230 x 42
TT210-15	1.5	250 x 310 x 65
TT210-18	3	310 x 370 x 75
TT210-24	10	420 x 520 x 120
TT210-28	21	534 x 634 x 140
TT210-32	39	648 x 846 x 160

Hazard Warning Tapes
Covering a wide range of titles including:-

- CORROSIVE
- HARMFUL
- TOXIC
- HIGHLY FLAMMABLE
- RADIOACTIVE

For full details see SC250 et seq. in the Safety Section.



BS980



BT520 in use



TT210



BT512 in use



BT550 in use



Bench protection

Boxes

All dimensions are nominal and are length x width x height in mm.

Boxes, glass, rectangular

	Dimensions
Without lid	
BU100-32	220 x 150 x 55
BU100-36	200 x 100 x 100
BU100-42	275 x 150 x 60
BU100-54	350 x 150 x 70
With stainless steel drop-on lid	
BU104-32	220 x 150 x 55
BU104-36	200 x 100 x 100
BU104-42	275 x 150 x 60
BU104-54	350 x 150 x 70

Boxes, Azlon, polyethylene
With snap-on tight fitting lids.

	Ref.	*Dimensions*
BU120-10	BWY030	100 x 100 x 65
BU120-15	BWY032	100 x 100 x 125
BU120-20	BWY034	210 x 100 x 65
BU120-25	BWY036	210 x 190 x 90
BU120-30	BWY038	210 x 210 x 65
BU120-35	BWY039	210 x 210 x 90

Glass troughs - *see GE310.*

Instrument Boxes – *see Medical section.*

Microscope Slide Boxes – *see Microscopy section.*

Petri Dish Boxes – *see Petri Dish section.*

Pipette Boxes – *see Pipette section.*

Stainless steel lotion bowl – *see Medical section.*

Storage Containers 0.2 to 30 litres – *see Storage section.*

Tool roll – *see Tools section.*



BU104 in use



BU120

Brushes

All dimensions are nominal.

Brushes, Beaker
Bristle head 70mm diameter x 150mm long, on wood handle. Overall length 400mm. Supplied in pack of 10.

BU400-12 Beaker brushes

Brushes, Bottle
Bristle or nylon head on wire handle. Supplied in packs of 10.

	Head dia. x length mm	*Overall length mm*	*For bottle ml*
Bristle			
BU410-12	45 x 65	300	125
BU410-22	50 x 75	350	250
BU410-32	65 x 100	400	500
BU410-42	75 x 150	460	1000
Nylon			
BU410-17	45 x 65	300	125
BU410-27	50 x 75	350	250
BU410-37	65 x 100	400	500
BU410-47	75 x 150	460	1000

Brushes, Burette
Bristle head on wire handle. Supplied in packs of 10.

	Head diameter mm	*Overall length mm*	*For burette ml*
BU425-12	13	500	10
BU425-17	16	600	25
BU425-22	19	750	50
BU425-27	25	900	100

Brushes, Cylinder
Nylon fan shaped end on wire handle. Supplied in packs of 5.

	Head dia. x length mm	*Overall length mm*
BU430-12	65 x 120	650
BU430-17	75 x 140	650

Brushes, Flask
Curved bristle head 50mm diameter x 100mm long. With hinged centre joint and rubber covered stem on a wooden handle. Overall length 380mm. Supplied in pack of 5.

BU435-12 Flask brush

Brushes, Test tube
Bristle or nylon fan shaped head on wire handle. Supplied in packs of 10.

	Head dia. mm	*For tubes dia. mm*
Bristle		
BU450-12	10	10 to 12
BU450-22	30	16 to 25
Nylon		
BU450-17	10	10 to 12
BU450-27	30	16 to 25

Brushes, Test tube
Bristle or nylon with cotton tip head on wire handle. Supplied in packs of 10.

	Head dia. mm	*For tubes dia. mm*
Bristle		
BU455-12	16	12 to 16
BU455-22	30	19 to 25
Nylon		
BU455-17	16	12 to 16
BU455-27	25	19 to 25

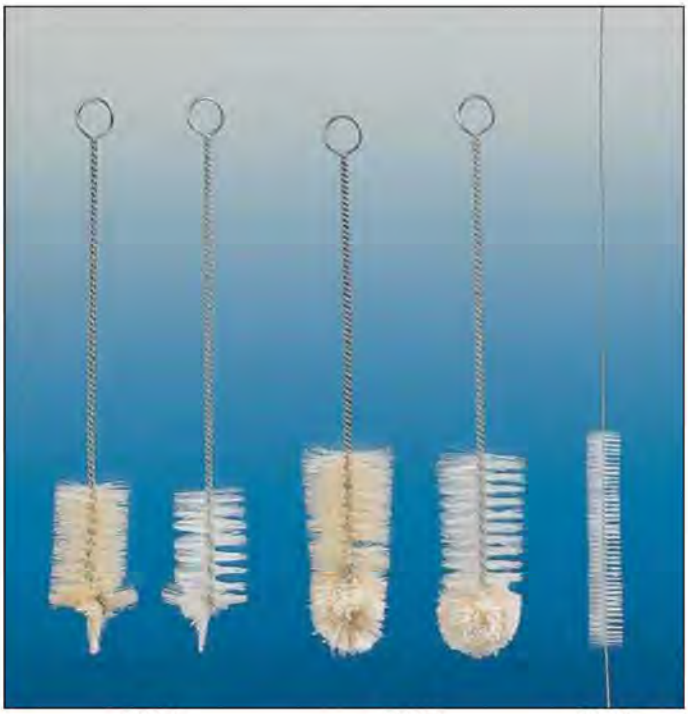
Brushes, Tube
Nylon brush 70mm long set in the centre of wire handle. Supplied in packs of 10.

	Brush dia. mm	*Overall length, mm*
BU465-12	3	400
BU465-17	6	400
BU465-22	12	600

Cleaning materials – *see Cleaning section.*



BU400 BU410 BU425 BU430 BU435



BU450 BU455 BU465

Brushes continued

Brushes, Tube (pipe cleaner), small
Flexible cord approximately 3mm diameter for cleaning capillaries, stopcocks, etc. 15 metre length.

BU470-10 Pipe cleaner

Brushes, Tube (pipe cleaner), large
Flexible fluffy cord stem, 300mm long. Approximate diameter as stated. Supplied in packs of 50 lengths.

BU470-15 Pipe cleaner, 9mm
BU470-25 Pipe cleaner, 12mm

Brush, Tube (pipe cleaner), heavy duty
Cord/nylon filament stem, approximately 3mm diameter. 10 metre length.

BU470-65 Pipe cleaner, cord/nylon

Brush, Tube (pipe cleaner), double action
As BU470-10 but 150mm length divided half cord, half cord/nylon filament. Supplied in pack of 100 lengths.

BU470-85 Pipe cleaner, double action

Brush, Flat form
For general dusting. Hair bristles 25mm wide in metal mount on wood handle.

BU480-10 Flat brush

Brushes, Round form
For general dusting. Soft hair bristles in quill mount.

	Head dia. mm	*Overall length, mm*
BU485-10	4	60
BU485-20	8	80

Brushes, Pencil form
Soft hair bristles approximately 7mm long in metal mount on wood handle.

BU490-10 Pencil brush

Brushes, Dabber/Mop form
Soft hair bristles in metal mount on wood handle.

	Head dia. mm	*Head length, mm*
BU495-10	9	30
BU495-15	11	34
BU495-20	14	38



BU470-10 in use



BU470-25 BU470-65 BU470-85



BU480 BU485 BU490 BU495

Buckets

Buckets, Plastic
With handle and approximate graduations as indicated. With spout (except BU700-10 which is supplied complete with loose-fitting lid).

	Capacity	*Material*	*Graduations*
BU700-10	9 litres	White polypropylene	—
BU700-12	10 litres	White polyethylene, heavy duty with plastic coated steel handle	1 litre
BU700-16	12 litres	Natural polypropylene	1 litre
BU700-18	15 litres	Natural polypropylene	1 litre
BU700-20	17 litres	Black polyethylene	0.5 litre

Buckets, stainless steel
With handle and approximate graduations at 1 litre intervals from the 5 litre mark.

BU715-10 10 litre
BU715-15 12.5 litre
BU715-20 15 litre

Lids
Stainless steel, for BU715 buckets.

BU717-10 10 litre
BU717-15 12.5 litre
BU717-20 15 litre

Kegs and drums – *see BR927, BR928.*

Large capacity jugs – *see MD758.*

Stirrers – *see SR550 to SR875.*

Storage/Mixing containers – *see SX310.*



BU700-10



BU700-12



BU700-16/-18



BU700-20



BU715

Bulbs

Bulbs, PVC, pear shape

	Size	Bulb dia. mm	Capacity ml	Neck bore mm
BU800-10	0	34	15	6.5
BU800-15	1	43	30	4
BU800-20	2	58	60	5
BU800-25	3	68	100	13
BU800-30	4	80	150	15

Bulbs (teats) rubber
For dropper pipettes.

	Size	Capacity ml	Neck bore mm
BU810-10	0	1.5	4
BU810-15	1	2	5
BU810-20	3	2.75	6
BU810-25	5	5	6

Bellows – *see BP200 to BP210.*

Bulb condensers, Allihn – *see Quickfit section.*

Bulb pipettes – *see PM106 to PM230.*

Graduated pipettes – *see PM400 to PM856.*

Droppers and teats – *see ME770.*

Latex tube policemen – *see RS260.*

Pipette controllers – *see PP865 to PP895.*

Pipette Bulbs

Pipette Bulbs
Small capacity, chemically resistant rubber bulbs for rapid and easy pipetting. Colour-coding aids identification.

	Capacity ml	Colour
PP845-05	1	Green
PP845-09	2	Grey
PP845-13	5	Yellow
PP845-17	10	Blue
PP845-21	15	Red

Pipette Bulbs
Chemically resistant rubber with valves for suction, emptying and air release controlled by thumb and finger pressure.

PP850-10 Standard model. For bulb and graduated pipettes up to 10ml

PP852-10 Universal model. With extended cone which accommodates all sizes of bulb and graduated pipettes

Pipette Bulb, automatic venting
For bulb and graduated pipettes up to 100ml capacity. Reservoir bulb incorporates one-way valve which allows it to vent when squeezed and reseal when released. The valve is removable, allowing easy internal cleaning should accidental contamination occur.

PP854-12 Pipette bulb, automatic venting

Safety Bulb Pipette Filler
Fits common sizes of pipettes and is particularly suitable as an aspirator for Westergren and Wintrobe sedimentation pipettes. The tapered silicone rubber seal prevents loss of suction. Easily cleaned and can be autoclaved.

PP860-25 Pipette filler



PP845



BU800 bottom BU810 top



PP850/852 PP854 PP860

Burettes, Glass, Single Bore, MBL®

Glass Burettes
Unless otherwise stated single and double bore burettes:

- Conform to BS846

Works Certified Burettes

- Each burette is supplied with a certificate stating the actual volume delivered at five points on the scale

Burettes, MBL, Class B
With PTFE key stopcock. Soda-lime (BW105-10 is borosilicate). Blue enamel graduations.

	Ref. BRB-	*Capacity x grads., ml*
BW105-10	070P	10 x 0.02
BW105-22	074P	25 x 0.10
BW105-23	075P	25 x 0.10*
BW105-26	076P	50 x 0.10
BW105-27	077P	50 x 0.10*

* With funnel top.

Burettes, MBL, Class B
With funnel top for easier and safer filling, PTFE stopcock connected to burette tube and jet, with self-locking nuts. Soda-lime burette tube and jet. Blue enamel graduations.

	Ref. BRB-	*Capacity x grads., ml*
BW112-22	264P	25 x 0.10
BW112-26	266P	50 x 0.10

Spare jets for BW112 series burettes
BW116-09 Soda-lime glass

Burettes, MBL, Class B
With interchangeable glass stopcock. Soda-lime. (BW120-10 is borosilicate). Blue enamel graduations.

BRB-	*Ref. x grads., ml*	*Capacity*
BW120-10	050P	10 x 0.02
BW120-22	056P	25 x 0.10
BW120-26	058P	50 x 0.10
BW120-30	060P	100 x 0.20

Burettes, MBL, Class B
With GP Rotaflo PTFE key stopcock. Soda-lime glass. Amber stain graduations.

	Ref. BRB-	*Capacity x grads.., ml*
BW129-14	402	10 x 0.10
BW129-22	404	25 x 0.10
BW129-26	406	50 x 0.10
BW129-30	408	100 x 0.20

continued on next page


BW112 top



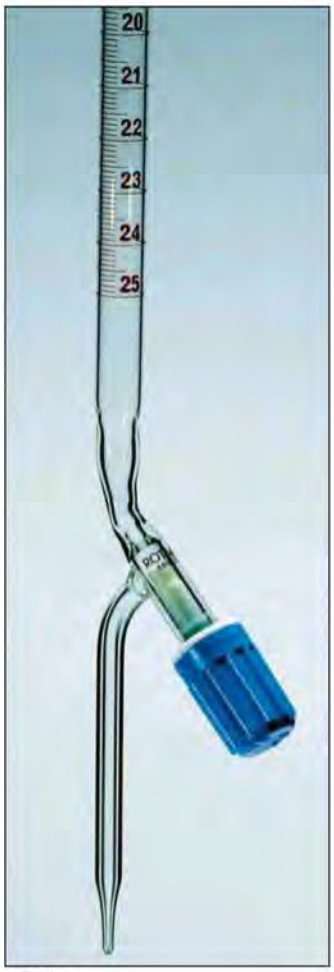
BW105



BW112



BW120



BW129

Burettes, Glass, Single Bore, Pyrex

Burettes, Pyrex
With PTFE key stopcock. Borosilicate glass. Graduations in white enamel.

	Ref.	*Capacity x grads, ml*
Class B		
BW144-10	3295/02	10 x 0.02
BW144-12	3295/04	25 x 0.10
BW144-26	3295/06	50 x 0.10
BW144-30	3295/08	100 x 0.20
Class AS		
BW147-10	3295/12AS	10 x 0.02
BW147-12	3295/14AS	25 x 0.10
BW147-26	3295/16AS	50 x 0.10
BW147-30	3295/18AS	100 x 0.20
Works Certified		
BW151-10	3295/22ASWC	10 x 0.02
BW151-12	3295/24ASWC	25 x 0.10
BW151-26	3295/26ASWC	50 x 0.10
BW151-30	3295/28ASWC	100 x 0.20

Spare PTFE key GP3K – *see Quickfit section.*

Burettes, Plastic, Single Bore

Azlon

Robust general purpose burettes suitable for use with most aqueous solutions. Advice must be requested if required to be used with organic materials.

Burettes, Azlon, Class B
Transparent acrylic with PTFE key single bore stopcock which requires no lubrication. Graduations are screen printed in black to BS846 Class B accuracy. Not suitable for use with NH_3 and HF aqueous solutions or organic alcohols and solvents.

	Ref. BDH-	*Capacity x grads. ml*
BW510-22	112T	25 x 0.10
BW510-26	118T	50 x 0.10
BW510-30	124T	100 x 0.20



BW144, BW147 and BW151 are similar



BW510

Automatic Zero Burettes

Automatic Zero Burettes, MBL
Sofnol pattern. For water testing. Class B. Soda-lime glass. Graduations in blue enamel. With pinchclip, rubber tube, jet and polyethylene reservoir bottle. The burette is filled by squeezing the bottle. Once the bottle is released, excess liquid can drain back into the bottle until the burette is set to zero. The 10ml has a 500ml bottle and the 20ml a 1000ml bottle.

	Ref. BRB-	*Capacity x grads. ml*
BW590-14	004	10 x 0.10
BW590-16	006	20 x 0.10

BW592-08 Spare pinchvalve and jet for BW590-series

Automatic Zero Burettes, Pyrex
Sofnol pattern. Class B. Borosilicate glass. With internal filling tube, automatic zero and single bore GP Rotaflo stopcock. Graduations in white enamel.

	Ref.	*Capacity x grads. ml*
BW595-14	3298/02	10 x 0.10
BW595-16	3298/03	20 x 0.10
BW595-24	3298/04	25 x 0.10

Reservoir bottles for BW595 series
Polyethylene with holed screw cap which accepts and seals to the burette extension tube. The burette is filled by squeezing the bottle.

	Ref.	*Capacity ml*
BW597-22	3299/04	500
BW597-34	3299/06	1000

Automatic Zero Burettes, Pyrex
For suction or low pressure filling. Class AS. Borosilicate glass. With PTFE stopcock and 29/32 cone joint to fit BW634 reservoir. Graduations in white enamel. Without reservoir.

	Ref.	*Capacity x grads. ml*	*Joint size*
BW630-12	3296/02AS	10 x 0.02	29/32
BW630-26	3296/04AS	25 x 0.05	29/32
BW630-30	3296/06AS	50 x 0.10	29/32

Reservoir bottle, for BW630 series. Soda-lime glass.
BW634-10 2000ml, 29/32 neck

Bellows - *see BP200/BP205-series.*

Automatic Zero Burettes
Dr Schilling pattern. Class B. Borosilicate glass (plastic-coated: BW660-36, -38 only) burette tube with Schellbach stripe, mounted on a low density polyethylene flexible bottle. With PVC discharge tube and HDPE support base. Screw adjustment and push button provide fine to coarse delivery of liquid. Rapid fill by squeezing the reservoir bottle.

	Burette Capacity x grads. ml	*Reservoir Capacity ml*
Glass		
BW660-10	10 x 0.05	500
BW660-14	25 x 0.10	1000
BW660-18	50 x 0.10	1000
Plastic-coated glass		
BW660-36	25 x 0.05	1000
BW660-38	50 x 0.10	1000

Dispensers, bottle mounted – *see DK100 to DK282 in the Dispensers section.*


BW590


BW595 with BW597


BW630 with BW634 and bellows


BW660

Burettes

Digital Burettes

Bibby Scientific

- Capacities 30ml and 50ml
- Large LCD readout
- Positive displacement of liquid means no waiting period between titrations
- Zero reset facility
- Values can be accumulated up to 99.99ml
- User calibration and adjustment features allow incorporation into GLP and ISO 9000 protocols

Digital Burettes

As specified. Resolution 0.01ml. Precision better than or equal to 0.1% on rated volume for both models. 30mm standard neck thread and supplied with 33, 38 and 45mm adapters for use with most standard reagent bottles. Powered by long-life batteries with auto-shut off after 3 minutes without use and recall memory of the last reading displayed. With batteries but without reservoir.

BW800-27 Model BT30, 30ml
BW800-52 Model BT50, 50ml

Accessories

Reservoirs, amber glass. With side entry filler neck for refilling without removing the burette.

BW802-12 Capacity 1400ml
BW802-16 Capacity 2500ml

Digital Burettes, Titrette®

BRAND

- Capacities 25ml and 50ml
- High accuracy (within Class A limits)
- Precision gears allow drop-wise titration and 3 decimal place display available up to 20ml volume
- Pause button allows titration value to be retained during refilling
- Powered by standard alkaline 1.5V AAA batteries with Auto Power Off function, adjustable from 1 to 30 minutes use
- Built-in SafetyPrime™ recirculating valve on discharge tube channels back reagent Into the reservoir during priming
- Telescopic FEP filling tubes and adjustable dispensing tube increase flexibility in use
- Inspection windows allow easy monitoring of solution being dispensed (interchangeable amber windows supplied for light-sensitive solutions)
- User calibration and adjustment features allow incorporation into GLP protocols
- User-serviceable piston, cylinder and valve assemblies for easy cleaning or replacement
- Models available with RS232 interface and software to download data, ID, and calibration details to the users' PC (requires Windows™ OS)

Digital Burettes, Titrette®

As described. Resolution 0.001 up to 20ml, 0.01 rest of range (25ml model), 0.002 up to 20ml, 0.01ml rest of range (50ml model). Accuracy within Class A limits. Supplied with performance certificate. With GL45 standard neck thread, (170-330mm) filling recirculation tube, 2 x 1.5V AAA batteries, 3 x PP bottle adapters (GL45/32, GL45/S40, GL32/NS29/32), 2 each clear and amber inspection windows and instructions. RS232 models additionally incorporate an interface and are supplied with cable (9-pin sub-D plug) and Cd software disk for Windows™ OS computers. Without reservoir.

BW900-46 Titrette, 25ml
BW900-48 Titrette, 25ml, with RS232
BW900-72 Titrette, 50ml
BW900-74 Titrette, 50ml, with RS232

Spares and Accessories for Titrette series

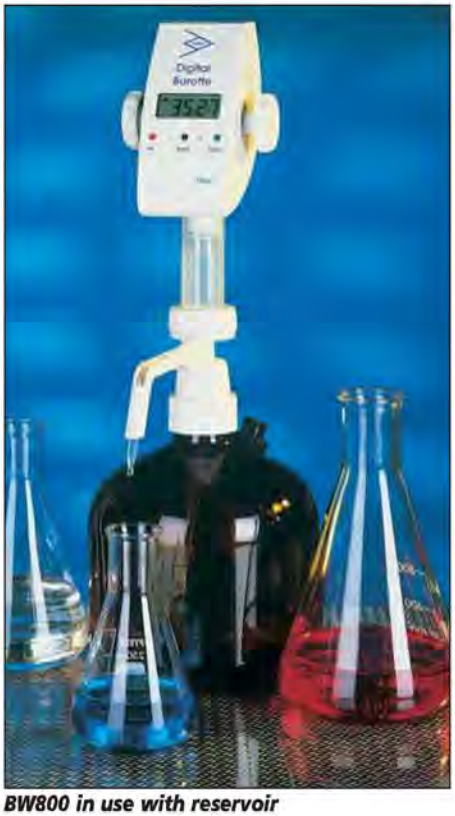
BW902-21 Spare discharge tube, FEP, 165mm long. With fine drawn out tip
BW902-24 Accessory telescopic filling tube, FEP, 170-330mm. With micro valve allowing dropless high precision titration
BW902-25 Accessory telescopic filling tube, FEP, 250-480mm. With micro valve allowing dropless high precision titration
BL610-08 1.5V AAA battery (2 required)

Reservoir Bottles

Amber, soda-lime glass, square pattern (except DK114-32 which is cylindrical) with ethylene-acrylate plastic coating to reduce breakage hazards. With PP screw cap and pouring ring with GL screwthread as indicated. Maximum operating temperature +80°C.

	Capacity ml	*Screw neck outside dia. mm*
DK114-22	500	GL32
DK114-27	1000	GL45
DK114-32	2500*	GL45

*2500ml size is cylindrical.



BW800 in use with reservoir



BW900 in use with reservoir



DK114 in use

Bunsen Burners

All burners have a heavy, pressure diecast base with integral inlet tube for 8mm bore flexible gas tubing. Bases are finished in chemically resistant, blue acrylic paint. For operation with gas types as indicated.

Bunsen Burners
Overall height approximately 124mm. Dimension given is the outside diameter of the burner tube.

	o.d. mm	*For gas type*
With air regulator		
BY100-10	11	Natural
BY100-12	13	Natural
BY100-20	11	LPG
BY100-22	13	LPG
With control stopcock and pilot flame		
BY100-30	13	Natural
BY100-32	13	LPG

Bunsen Burner, Universal
Can be used with coal and natural gases, LPG and mixtures of these. With air regulator, needle valve and an adjustable baffle in the 13mm o.d. burner tube. Overall height 160mm.

BY160-10 Universal

Tubing, for gas burners
Neoprene rubber with 8mm i.d. reinforced ends. Supplied singly.

	Length, mm
TY280-15	450
TY280-20	600
TY280-25	900

Gauzes – *see Gauzes section.*

Tripod Stands – *see Stands section.*

Tubing – *see Tubing section.*



BY100-10



BY100-30



BY160



TY280 in use

Micro Burners

Bunsen Burners, Micro
With air regulator. Overall height approximately 90mm. Burner tube 10mm o.d.

	For gas type
BY170-10	Natural
BY170-12	LPG

Bunsen Burner, Micro, Portable
Self-contained. With built-in LPG gas tank, which requires charging from readily available (cigarette lighter) containers, manual piezo ignition button, gas control valve and air regulator. Burner tube 9mm diameter. Overall height 92mm. Gas consumption 56g/hour. Without gas charge.

BY175-12 Self contained micro burner

Note: Gas cartridges can be exported only as seafreight – deck cargo. Local purchase is recommended.

Teclu Burners

Teclu Burners
With air regulator and gas control needle valve. Overall height approximately 127mm. Burner tube 13mm o.d.

	For gas type
BY250-10	Natural
BY250-12	LPG

Meker Burners

Meker pattern
With metal grid to ensure an evenly distributed flame. Overall height approximately 140mm. Dimension is the grid diameter.

	o.d. mm	*For gas type*
BY280-12	30	Natural
BY280-16	43	Natural*
BY280-22	20	LPG
BY280-38	43	LPG*

*BY280-16 and -38 are 180mm high.

Cartridge Burner, Meker pattern
Portable burner for use with accessory "Primus" 220g LPG gas cartridges. Constructed in brass with 17mm diameter plated steel grid at the nozzle, gas control valve and air regulator. Each 220g gas cartridge provides a continuous burning time of approximately 2.75 hours. Overall height when mounted on cartridge, 190mm. Without gas cartridge.

BY284-10 Cartridge burner, 17mm LPG
BY286-08 Accessory "Primus" LPG gas cartridge, 220g

Note: Gas cartridges can be exported only as seafreight – deck cargo. Local purchase is recommended.

Meker Burners, AMAL Major
With ceramic grid 43mm diameter, alternative jets and insulated handle. Overall height 180mm. Natural gas jets Nos. 160/150/170/180. LPG jets Nos. 40/30/50/60.

	For gas type
BY300-10	Natural
BY300-12	LPG


BY170


BY250


BY280-16, BY280-38 is similar


BY300


BY175


BY280-12 ***BY280-22***


BY284-10 with BY286-08

Laboratory Burners, Fuego SCS

For occasional or intermittent use, or serial flame sterilisation.

- Automatic gas ignition
- Low-profile easily cleaned stainless steel casing
- Gas and air regulators for fine control
- Visual alarm of burner head clogging and "burner hot" residual heat indicator
- Smooth sculpted design channels spillages away
- Can be tilted to avoid nozzle contamination
- Overheat protection system cuts off gas supply if overheating occurs or the electrical supply interrupted

Burner, Fuego SCS basic
With push-button ignition. The flame is maintained as long as the button is pressed and extinguishes on release. Alternatively, a foot pedal provided allows hands-free operation if required. Supplied with foot pedal, tilt mechanism, nozzles for natural gas or LPG, rack for up to 3 wire loop holders, tubing connector, wrench for gas connection and screwdriver for burner head. Overall 103 x 130 x 49mm L x W x H. Weight 0.7kg. Requires a 230V 50/60Hz single phase supply for the ignition circuit. Without gas supply.
BY340-30 Fuego SCS basic

Burner, Fuego SCS
Generally as BY340-30 but without foot pedal and with Infra-red sensor, range 5 to 50mm , requiring two hand movements to activate the flame which is maintained for a timed period adjustable within two ranges: start-stop from 1 second to 2 hours or Auto-off from 1 second to 2 hours. An LCD readout with heat resistant glass face indicates time remaining and burner functions/ adjustment. An accessory foot pedal is available, if preferred. Requires a 230V 50/60Hz single phase supply for the ignition circuit. Without gas supply.
BY340-40 Fuego SCS

Accessories
BY344-06 Foot pedal. Accessory for BY340-40
BY344-12 Glass safety shield. For added safety when handling pathogenic material
BY344-24 Gas cartridge, CV270, 250g
BY344-26 Adapter for connecting BY344-24 to BY340-burners

Note: Gas cartridges BY344-24 can be exported only as sea freight – deck cargo. Local purchase is recommended.



BY340-40, BY340-30 is similar


BY380-40

Lighters

Gas Lighter, Flint
Comprising spring holder, adjustable shielded flint and striking plate.
BY380-40 Gas lighter, flint
BY382-10 Spare flints, pack of 10

Gas Lighter, Piezo
Suitable for igniting the common fuel gases. Sparks produced by squeezing the handle. No battery required.
BY385-10 Gas lighter, piezo

Liquid Fuel Burners
For use with methylated spirit. Glass reservoir. With wick and screw on bakelite cap.
BY400-10 50ml
BY402-10 Spare wicks, for BY400-10, pack of 10

Liquid Fuel Burner, Safety Pattern
For use with methylated spirit. Glass reservoir. With virtually leakproof, screw-on metal wick support, wick and metal screw cap cover.
BY400-16 100ml
BY402-15 Spare wicks, for BY400-16, pack of 10

Electric Heaters for test tubes, crucibles, instruments, etc. – *see HE760 in the Heating section.*

Wood splints – *see GE350-10.*


BY385-10


BY400-10


BY400-16

Disposable

BRAND

Disposable cells, UV-Cuvette micro

- Allow analysis from 220nm, suitable for DNA/RNA determination at 260 and 280nm
- 70µl minimum capacity, ideal for low volume sampling
- Optical path length 10mm
- Photometric accuracy: ±0.007A (220-260nm), ±0.002A (270-900nm)
- Choice of centre height, 8.5mm or 15mm
- Accessory, colour-coded, sealing caps available
- Suitable for sample freezing down to -20°C
- Individually wrapped versions are cleanroom packed, DNase, DNA- and RNase- free
- Sorted into pack by mould cavity to maximise performance consistency

Chemical resistance comparison

Substance	*Cell material Polystyrene*	*Acrylic*	*UV-Cuvette*
Acetic acid 100%	—	—	✓
Acetone	—	—	✓
Ammonia	✓	✓	✓
Benzaldehyde	—	—	✓
Butanol	—	—	✓
Chloroform	—	—	—
Dioxane	—	—	✓
Dimethyl sulphoxide	—	—	✓
Ethyl acetate	—	—	✓
Hexane	—	✓	—
Hydrochloric acid 36%	✓	—	✓
Hydrofluoric acid 10%	✓	✓	✓
Isopropanol	✓	✓	✓
Nitric acid 65%	—	—	✓
Sodium hydroxide	✓	✓	✓

As described. UV-transparent, chemically resistant plastic. Supplied in packs as indicated.

	Inner pack	*Outer pack*
8.5mm centre height		
CA300-10	—	100
CA300-12	1	100
CA300-15	—	500
15mm centre height		
CA300-30	—	100
CA300-32	1	100
CA300-35	—	500

Accessory caps for CA300-series UV-Cuvette micro cells only

In colours as indicated. Supplied in packs of 100.

CA302-04 Blue
CA302-08 Yellow
CA302-12 Green
CA302-16 Orange

UV-Cuvette macro and semi-micro cells

Similar to the UV-Cuvette micro cells but in standard 4ml macro and 2ml semi-micro square formats with 10mm path length.

CA305-20 Macro, 2 clear sides, pack of 100
CA305-40 Semi-micro, pack of 100

Disposable cells

- Optical path length 10mm
- Polystyrene (PS) or acrylic (PMMA)

	Type	*Pack qty.*
CA400-05	Macro square, PS 4ml, 2-clear sides	100
CA406-10	Micro square, PS 2ml	500
CA407-25	Macro square, PMMA, 2-clear sides	100
CA407-30	Semi-micro square, PMMA	100
CA408-15	Lids, PP for 10mm square cells	1000

Colorimeters – *see CS100/CT600 series.*

Pipettors – *see PR060/PR670 series.*

Plastic test tubes – *see TE600/TE738 series.*

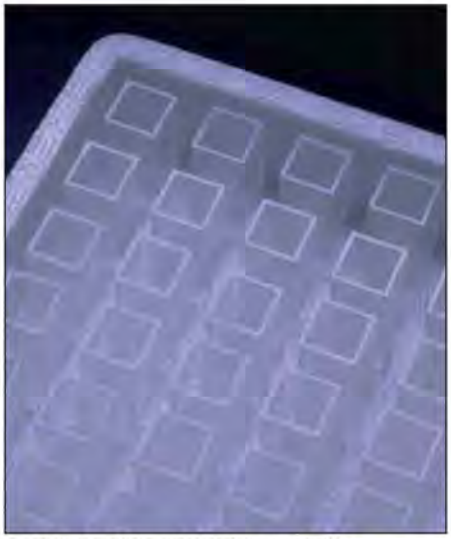
Spectrophotometers – *see SJ220/SJ415 series.*

Spectrophotometer calibration cells – *see SJ700.*

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CA300 ***CA305***



CA400, CA406 and CA407 are similar

Cells

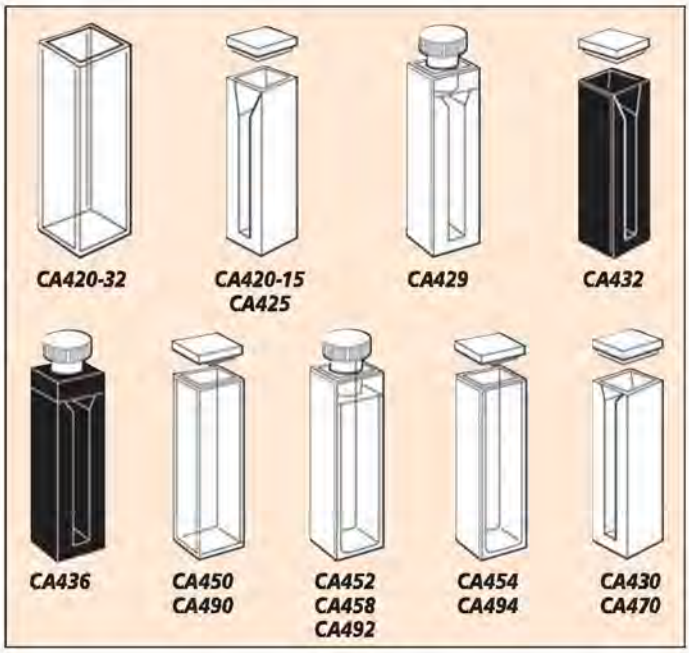
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.	Path length, mm	Type	Working vol., µl	Material	Transmission range, nm	Colour code	Ref.
Routine							
CA420-15	10	Semi micro	1400	silica	240 to 2500	blue	6040-uv
CA420-32	10	Macro	3500	silica	240 to 2500	blue	6030-uv
Precision							
CA425-14	10	Micro with lid	700	silica	200 to 2500	blue	104-002-QG
CA429-14	10	Micro with stopper	400	silica	200 to 2500	blue	115-QG
CA430-14	10	Semi micro with lid	1400	optical glass	360 to 2500	yellow	104-TG
CA430-44	10	Semi micro with lid	1400	silica	200 to 2500	blue	104-QG
CA432-14	10	Micro with lid. Self masking with black frames	1400	special optical glass	320 to 2500	green	104B-OS
CA436-14	10	Semi micro with lid. Self masking with black frames	1400	special optical glass	320 to 2500	green	114B-OS
CA436-44	10	Micro with lid. Self masking with black frames	1400	silica	200 to 2500	blue	114B-QS
CA450-14	10	Macro with lid	3500	optical glass	360 to 2500	yellow	100-TG
CA450-16	20	Macro with lid	7000	optical glass	360 to 2500	yellow	100-TG
CA450-18	40	Macro with lid	14000	optical glass	360 to 2500	yellow	100-TG
CA450-44	10	Macro with lid	3500	silica	200 to 2500	blue	100-QG
CA450-46	20	Macro with lid	7000	silica	200 to 2500	blue	100-QG
CA450-48	40	Macro with lid	14000	silica	200 to 2500	blue	100-QG
CA452-14	10	Macro with stopper	3500	optical glass	360 to 2500	yellow	110-TG
CA452-44	10	Macro with stopper	3500	silica	200 to 2500	blue	110-QG
CA454-14	10	Macro fluorescence with lid	3500	special optical glass	320 to 2500	green	101-OS
CA454-44	10	Macro fluorescence with lid	3500	silica	200 to 2500	blue	101-QG
CA458-44	10	Macro fluorescence with stopper	3500	silica	200 to 2500	blue	111-QG
Matched pairs							
CA470-44	10	Semi micro with lid	1400	silica	200 to 2500	blue	104-QG/M
CA490-44	10	Macro with lid	3500	silica	200 to 2500	blue	100-QG/M
CA492-44	10	Macro with stopper	3500	silica	200 to 2500	blue	110-QG/M
CA494-44	10	Macro fluorescence with lid	3500	silica	200 to 2500	blue	101-QG/M

Lovibond

	Path length
Comparator cells W680 optical glass	
CS215-14	5mm
CS215-18	10mm
CS215-22	13.5mm
CS215-28	25mm
CS215-36	40mm
Tintometer cells W600 Optical glass	
CS780-14	10mm
CS780-18	20mm
CS780-20	25mm
CS780-24	33mm
CS780-26	40mm
CS780-32	50mm
CS780-48	1in
CS780-58	5 1/4in
Tintometer cells W600/B Borosilicate glass	
CS782-48	1in
CS782-58	5 1/4in

Routine cells for Lovibond comparator - *see CS210.*



Personal Microcentrifuge

Fixed speed, personal microcentrifuge, ideal for rapid spin downs from microtube walls and caps, HPLC preparations, cell separations and microfiltration tubes.

- Choice of interchangeable fixed angle rotors:
  - — 2 x (8 x 0.2ml) tube strips, 6300rpm/2200xg rcf
  - — 6 x 0.5/1.5ml microtubes (0.5ml with adapters supplied), 6600rpm/ 2000xg rcf max.
- Minimal bench space required
- Transparent lid allows easy sample viewing
- Lid latch microswitch allows operation only when the lid is closed
- Independent on/off switch allows switch-off without opening lid latch
- Portable, lightweight, but sturdy housing
- Soft polymer footpad gives stability and quiet operation

Speed max.	*rpm*	6600
Force max.	*rcf*	2200xg
Overall H x W x D	*mm*	100 x 132 x 137
Weight	*g*	494
Supply requirement		90-240V 50/60Hz single phase supplies

As described. For 90-240V 50/60Hz single phase supplies.
CD115-25 Microcentrifuge

0.2ml tube strips - *see MW730, MW760.*

Microcentrifuge tubes - *see CF300/CF308.*

Centrifuge-Vortexers, PCV- Series

Grant bio

Benchtop, combined microcentrifuge/vortex mixers for spin-mix-spin applications involving 0.2, 0.5, 1.5/2ml microtubes (or 8-well microtube strips using an accessory rotor). Can be used as a separate centrifuge, mixer (or concurrently - PCV2400 only). Ambient operating temperature range: +4 to +45°C.

- Combi-spin PCV-2400

  Fixed speed 2400rpm. Tubes are spun simultaneously, then removed for individual mixing in the vortex cup which protrudes from an opening in the closed lid (safety interlock will not allow operation when the lid is open). Further tubes can be spun whilst individual tubes are vortexed. Suitable for continuous use up to 60 minutes or short spin. For 220-240V 50/60Hz single phase supplies.

- Multi-spin PCV-3000

  Tubes are held in the rotor for spinning or mixing. Spin and/or mix phases can be pre-programmed by the user via the twin-line LCD readout and setting keys. Speed is adjustable from 1000 to 3500rpm in 100rpm steps, overall time from 1 second to 99 minutes, mixing period from 1 to 20 seconds and mix-spin cycles can be preset to repeat up to 999 times. Mixing intensity is also adjustable over three levels: low, medium or high. Multi-spin operates via a 12V d.c. power adapter requiring a 220-240V 50/60Hz single phase supply.

As described. both models are supplied with interchangeable rotors for 12 x 1.5/2ml microtubes or 12 x 0.2ml and 12 x 0.5ml microtubes. Overall 225 x 180 x 115mm W x D x H.

CD125-20 PCV-2400
CD125-40 PCV-3000

Accessory rotors for both models

CD129-10 PR2-05, 8 x 1.5/2ml and 8 x 0.5ml microtubes
CD129-15 PR2-05-02, 6 x 1.5/2ml, 6 x 0.2ml and 6 x 0.5ml microtubes
CD129-20 PSR-16-5, 2 x 8-well 0.2ml microtube strips



CD115-25



CD125-40 ***CD125-20***

Centrifuges

Benchtop Centrifuge LMC-3000

Grant bio

A basic, low-speed, benchtop centrifuge for routine analytical applications using accessory interchangeable rotors.

- Maximum speed 3000rpm (2000rpm with microtitre plate rotor)
- 1 to 30 minute timer
- Twin-line LCD readout of speed and time with simple push-button setting
- Soft start and run-down functions
- Automatic rotor imbalance switch-off and lid interlock when running

General Purpose Centrifuge, LMC-3000
As described. Overall 235 x 470 x 400mm H x W x D. Weight 13.5kg. For 230V 50/60Hz single phase supplies. Without rotor.

CD140-10 LMC-3000

Accessory rotors for CD140-10

CD142-03 R-12-10, rotor for 12 x 10/15ml (110 x 16mm) round bottom tubes. Max. rpm 3000

CD142-06 R-12-15, rotor for 12 x 15ml (120 x 17mm) conical tubes. Max. rpm 3000

CD142-09 R-6, rotor for 6 x 50ml (116 x 30mm) conical tubes. Max. rpm 3000

CD142-12 R-2, rotor for 2 x 96-well microplates (standard or deep-well). Max. rpm 2000



CD140-10



CD142-03



CD142-09



CD142-06



CD142-12

Microcentrifuge SCF2

stuart

Compact microcentrifuge for spinning 12 x 1.5/2.2ml tubes, or 4 x 0.2ml 8-tube strips using an accessory rotor.

- Maximum speed 13500rpm (6000rpm - tube strip rotor)
- 1 to 30 minute timer
- Safety lid interlock
- Pulse function
- LCD readout of rpm or rcf and time
- Quiet operation, ≤60dB
- Rapid rotor exchange without using tools

Microcentrifuge, SCF2
As described. Supplied with 12 x 1.5/2.2ml microtube rotor (maximum rcf 12300xg). Overall 145 x 208 x 245mm H x W x D. Weight 4.4kg. For 220V 50/60Hz single phase supplies.

CD170-15 SCF2

Accessories

CD173-08 4 x 0.25ml 8-tube strip rotor (Max rcf 1850xg outer strip, 1542xg inner strip)

CD173-12 0.5ml tube adaptors for CD170-15, pk of 12

CD173-14 0.2ml tube adaptors for CD170-15, pk of 12



CD170-15 in use

Centurion Centrifuges

A range of high quality, UK manufactured, bench top centrifuges including general purpose and refrigerated models.

The instruments are thoroughly examined and tested before they leave the factory. All models have a unique self-calibrating system which tests all working components of the unit.

All centrifuges conform to the latest safety directives and requirements.

Features on all models

- Low maintenance induction drive motor
- Removable safety bowl
- Rotor imbalance detector
- Easily visible, bright LED display
- Automatic braking
- Digital controls with keypad setting by rcf or speed and time
- Lid lock which prevents the lid opening while the rotor is spinning
- Overspeed and stop sensors using separate optical decoders
- Last run memory
- Pulse control, 1 to 90 seconds
- Adjustable brake in 10 stages with off position

Additional features, C2 series

- Stainless steel bowl for easy cleaning
- 10 programme memory
- Soft start acceleration with 10 stage adjustment

Additional features, K3 series

- Pre-set memory with programmable speed and time (and temperature on refrigerated models)
- Touch screen control and programming
- W2t graphics display function for consistent sample processing during serial operations
- 99 programme memory
- Rotor recognition of angle rotors, allowing multiple rotors to be used in safety
- Fan assisted cooling on refrigerated models



CD280-45



CD340-20

Centurion C2 Series

- Wide range of models with speeds from 4000 to 15000rpm and maximum rcf's up to 13500xg
- Brushless motor drives
- Bright blue LED display of speed and time
- Digital setting by speed or rcf
- Up to 10 programmes stored in memory
- Up to 10 acceleration and braking rates selectable
- 0 to 99 minute timer and 1 to 90 second Pulse function
- Safety features include imbalance detector, lid lock and speed/overspeed sensors
- Quiet in operation, <60dB (A)
- End of run alarm
- stainless steel bowl for easy cleaning
- Alloy and steel main frame with composite body for rigidity and long life

Model		C2004	C2041	C2006	C2012	CR2000	C2015
Speed max.	*rpm*	4000	4000	6000	12000	12000	15000
Max. rcf	*xg*	2250	2650	4500	13500	13500	22000
Max. capacity	*ml*	400	1000	300	50	400	50
Overall H x W x D	*mm*	270 x 330 x 450	280 x 400 x 500	270 x 330 x 450	230 x 230 x 350	270 x 330 x 450	230 x 230 x 350
Weight	*g*	16.5	22.0	16.5	12.0	16.5	12.0
Supply requirements		230V 50/60Hz single phase supplies — all models					

Centrifuge Model C2004

As described. With continuously variable speed range 500 to 4000rpm and time 0 to 99 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 2250xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD280-10 Model C2004

Accessories for CD280-10

CD282-04 Rotor, fixed angle for 24 x 15ml (17 x 120mm) tubes. Max rpm/rcf 4000/2236xg

CD282-06 Rotor, fixed angle for 8 x 50ml (30 x 115mm) tubes. Max rpm/rcf 4000/2236xg

CD282-11 Rotor, swing-out*, with carriers for 4 x 100ml (45 x 100mm) tubes. Max rpm/rcf 4000/2236xg

Centrifuge Model C2041

As described. With continuously variable speed range 500 to 4000rpm and time 0 to 99 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 2600xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD280-15 Model C2041

Accessories for CD280-15

CD282-04 Rotor, fixed angle for 24 x 15ml (17 x 120mm) tubes. Max rpm/rcf 4000/2236xg

CD282-06 Rotor, fixed angle for 8 x 50ml (30 x 115mm) tubes. Max rpm/rcf 4000/2236xg

CD282-17 Rotor, swing-out*, for up to 4 x 250ml (62 x 130mm) tubes. Without buckets. Max rpm/rcf 4000/2612xg

CD282-19 Buckets for 250ml (62 x 130mm) tubes, set of 4

Centrifuge Model C2006

As described. With continuously variable speed range 500 to 6000rpm and time 0 to 99 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 3800xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD280-20 Model C2006

Accessories for CD280-20

CD282-23 Rotor, fixed angle for 12 x 15ml (17 x 120mm) tubes. Max rpm/rcf 6000/3800xg

CD282-27 Rotor, fixed angle for 6 x 50ml (30 x 115mm) tubes. Max rpm/rcf 6000/3800xg

*Adapters for use with swing-out rotor carriers or buckets are listed on the next page.

continued on next page



CD280-10, CD280-20 is similar



CD280-15

Centurion C2 Series continued

Centrifuge Model C2012

As described. With continuously variable speed range 500 to 12000rpm and time 0 to 99 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 13500xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD280-30 Model C2012

Accessories for CD280-30

CD345-05 Rotor, fixed angle for 48 x 0.2ml (6 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-07 Rotor, fixed angle for 36 x 0.4/0.5ml (8 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-09 Rotor, fixed angle for 24 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-12 Rotor, fixed angle for 24 x haematocrit capillaries and 12 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 12000/13500xg. With rotor recognition

Centrifuge Model CR2000

As described. With continuously variable speed range 500 to 12000rpm and time 0 to 99 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 13500xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD280-35 Model CR2000

Accessories for CD280-35

CD282-11 Rotor, swing-out, with carriers for up to 4 x 100ml (45 x 100mm) tubes. Max rpm/rcf 4000/2236xg

CD282-23 Rotor, fixed angle for 12 x 15ml (17 x 120mm) tubes. Max rpm/rcf 6000/3800xg

CD282-27 Rotor, fixed angle for 6 x 50ml (30 x 115mm) tubes. Max rpm/rcf 6000/3800xg

CD345-05 Rotor, fixed angle for 48 x 0.2ml (6 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-07 Rotor, fixed angle for 36 x 0.4/0.5ml (8 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-09 Rotor, fixed angle for 24 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-12 Rotor, fixed angle for 24 x haematocrit capillaries and 12 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 12000/13500xg. With rotor recognition

Centrifuge Model C2015

As described. With continuously variable speed range 500 to 15000rpm and time 0 to 99 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 22000xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD280-45 Model C2015

Accessories for CD280-45

CD345-05 Rotor, fixed angle for 48 x 0.2ml (6 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-07 Rotor, fixed angle for 36 x 0.4/0.5ml (8 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-09 Rotor, fixed angle for 24 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

Adapters for swing-out rotors. Supplied in sets of 4.

Rotor/buckets For tubes, dia x ht, mm		CD282-11* (max. tubes)	CD282-17/-19 (max. tubes)
Micro			
0.2ml	6 x 20	*CD284-03* (48)	*CD286-03* (64)
0.4ml	6 x 30	*CD284-06* (48)	*CD286-06* (64)
1.5/2ml	11 x 38	*CD284-09* (28)	*CD286-09* (28)
Round bottom without cap			
5/6ml	12 x 75/82	*CD284-21* (32)	*CD286-21* (32)
15ml	17 x 100	*CD284-30* (28)	*CD286-30* (28)
25ml	24 x 100	*CD284-33* (12)	*CD286-33* (12)
50ml	34 x 100	*CD284-36* (4)	*CD286-36* (8)
100ml	45 x 100	*CD284-39* (4)	*CD286-39* (4)
250ml	62 x 100	— —	No adapter required (4)
Falcon-type, conical			
15ml	17 x 120	*CD284-45* (8)	*CD286-45* (16)
50ml	29 x 115	*CD284-47* (4)	*CD286-47* (4)
Falcon-type, self-standing			
12ml	17 x 100	*CD284-51* (8)	*CD286-51* (16)
50ml	29 x 115	*CD284-60* (4)	*CD286-60* (4)
Oak Ridge-type			
10ml	16 x 80	*CD284-63* (8)	*CD286-63* (16)
30ml	26 x 95	*CD284-66* (4)	*CD286-66* (8)
50ml	29 x 107	*CD284-69* (4)	*CD286-69* (8)
250ml	62 x 130	— — —	No adapter required (4)

*Does not require buckets as carriers are included.

Micro-Haematocrit reader

Provides quick, accurate readings of packed cell volume on samples with total fluid column heights between 40 and 70mm.

CD282-75 Haematocrit reader, hand-held

Alternative adapters are available for a variety of tubes, bottles and blood collection vessels - *details on request.*



CD280-45, CD280-30 is similar



CD282-11 in use

Centrifuges

Centurion K3 series

- High-speed, benchtop range with enhanced features to enable easy use in a wide variety of applications
- Maximum speeds up to 15000rpm with maximum rcf's up to 22000xg
- Brushless motor drives
- Back-lit, touchscreen LCD readout and controller
- Digital setting/display by speed or rcf (and temperature - refrigerated models only)
- W2t graphical readout facility ensures consistency during serial centrifugation processes
- Up to 99 programmes stored in memory
- Up to 10 acceleration and braking rates selectable
- 0 to 99 minute timer and 1 to 90 second Pulse function
- Safety features include imbalance detector, lid lock and speed/overspeed sensors
- Rotor recognition (using applicable rotors) enables fast rotor change and set-up
- Large range of rotor capacities
- Quiet in operation, 60dB (A)
- End of run alarm
- Stainless steel bowl for easy cleaning
- Alloy and steel main frame with composite body for rigidity and long life

Cat No.		***CD340-20***	***CD340-25***	***CD340-30***	***CD340-45***
Model		K241	K241R*	K2015	K2015R*
Maximum speed	*rpm*	15000	15000	15000	15000
Maximum rcf	*xg*	13500	22000	22000	22000
Maximum capacity	*ml*	1000	1000	400	400
Overall H x W x D	*mm*	280 x 400 x 500	350 x 400 x 610	270 x 330 x 450	350 x 400 x 620
Weight	*kg*	22.0	47.0	16.5	47.0
Supply requirements		230V 50/60Hz single phase supplies — all models			

*Refrigerated models.

continued on next page



CD340-20, CD340-30 is similar



CD340-45, CD340-25 is similar

Centurion K3 series continued

Centrifuge Model K241
As described. With continuously variable speed range 500 to 15000rpm and time 0 to 999 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 22000xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD340-20 Model K241

Centrifuge Model K241R refrigerated
As described. With continuously variable speed range 500 to 15000rpm, time 0 to 999 minutes and temperature -9 to +40°C. Pulse mode setting from 1 to 90 seconds. Maximum rcf 22000xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD340-25 Model K241R

Accessories for CD340-20 and CD340-25

CD345-05 Rotor, fixed angle for 48 x 0.2ml (6 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-07 Rotor, fixed angle for 36 x 0.4/0.5ml (8 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-09 Rotor, fixed angle for 24 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-12 Rotor, fixed angle for 24 x haematocrit capillaries and 12 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 12000/13500xg. With rotor recognition

CD345-16 Rotor, fixed angle for 24 x 15ml (17 x 120mm) tubes. Maximum rpm/rcf 4000/2236xg. With rotor recognition

CD345-18 Rotor, fixed angle for 8 x 50ml (30 x 115mm) tubes. Maximum rpm/rcf 4000/2236xg. With rotor recognition

CD282-17 Rotor, swing-out*, for up to 4 x 250ml (62 x 130mm) tubes. Without buckets. Max rpm/rcf 4000/2612xg. Without rotor recognition

CD282-19 Buckets*, for 250ml (62 x 130mm) tubes, set of 4

CD345-25 Microtitre plate rotor/carrier to hold maximum of 4 x microplates. Max rpm/rcf 2000/559xg

Micro-Haematocrit reader
Provides quick, accurate readings of packed cell volume on samples with total fluid column heights between 40 and 70mm.

CD282-75 Haematocrit reader, hand-held

*Tube insert adapters for CD282-17, -19 - *see CD284.*

Sealing caps for buckets are available - *details on request.*

Centrifuge Model K2015
As described. With continuously variable speed range 500 to 15000rpm and time 0 to 999 minutes. Pulse mode setting from 1 to 90 seconds. Maximum rcf 22000xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD340-30 Model K2015

Centrifuge Model K2015R refrigerated
As described. With continuously variable speed range 500 to 15000rpm, time 0 to 999 minutes and temperature -9 to +40°C. Pulse mode setting from 1 to 90 seconds. Maximum rcf 22000xg. Without rotor or accessories. For 230V 50/60Hz single phase supplies.

CD340-45 Model K2015R

Accessories for CD340-30 and CD340-45

CD345-05 Rotor, fixed angle for 48 x 0.2ml (6 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-07 Rotor, fixed angle for 36 x 0.4/0.5ml (8 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-09 Rotor, fixed angle for 24 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 15000/22000xg. With rotor recognition

CD345-12 Rotor, fixed angle for 24 x haematocrit capillaries and 12 x 1.5/2ml (11 x 40mm) tubes. Maximum rpm/rcf 12000/13500xg. With rotor recognition

CD345-16 Rotor, fixed angle for 24 x 15ml (17 x 120mm) tubes. Maximum rpm/rcf 4000/2236xg. With rotor recognition

CD345-18 Rotor, fixed angle for 8 x 50ml (30 x 115mm) tubes. Maximum rpm/rcf 4000/2236xg. With rotor recognition



CD345-16 in use



CD282-17 with CD282-19 in use with adapters



CD345-18 in use

Centrifuges

Student Models

Hand Centrifuge
Reinforced tough polyamide housing with the gear support structure and bench clamp of steel. The gear is self lubricating and runs easily. Maximum speed 3000rpm. Without rotor. PLEASE SEE NOTE BELOW REGARDING THE SUPPLY OF THIS CENTRIFUGE.

CD505-10 Hand centrifuge, without rotor

Accessory Rotors (Load must be balanced), supplied with buckets

CD505-33 For 4 x 15ml (120 x17mm max.) conical tubes. Max. rcf 1300xg

CD505-36 For 4 x 15ml (127 x 17mm max.) round bottom tubes. Max. rcf 1076xg

Centrifuge, micro, adjustable speed
Compact, personal microcentrifuge with 6-place, polypropylene, fixed angle rotor for 0.5ml and 1.5ml microtubes (or 8 x 0.2ml PCR tube strips using accessory rotor). Speed range 2000-8000rpm, max. rcf 4000xg. With safety lid interlock, dynamic braking and analogue dial setting of speed with rotor activation on speed selection (with lid closed). For 230V 50Hz single phase supplies.

CD530-40 6-place microtube rotor

Accessory rotors

CD533-06 12 x 1.5ml microtube

CD533-09 2 x (8 x 0.2ml) PCR tube strips

Centrifuge, general purpose
Manufactured to ESCHLE standards. With 4-place, swing-out, stainless steel rotor and aluminium buckets for 15ml tubes (105 x 16mm). Enamelled steel outer case. Maximum speed 2800rpm. With double safety opening catch and indicator light. Centrifuge can be operated only if the lid is closed and locked and finger pressure is maintained on the push-button switch or the timer is activated (CD540-20 only). A safety interlock prevents the lid being opened until the rotor stops. Overall 361 x 400 x 320mm W x D x H (lid closed). Weight 11kg. For 230V 50Hz single phase supplies.

CD540-10 4-place rotor

CD540-20 4-place rotor plus 30 minute timer

Accessory

CD540-60 Adapters for 75 x 10mm tubes, pack of 4

Centrifuge, adjustable speed
General purpose, variable speed centrifuge with 6-place, fixed angle head and aluminium buckets for 15ml tubes (120 x 17mm). Speed range 500-3500rpm, max. rcf 1300xg. With 0 to 30 minute electronic timer, safety lid interlock, analogue dial setting of speed and time and feedback speed control. Enamelled steel outer case. Overall 340 x 290 x 225mm W x D x H. Weight 14kg. For 230V 50Hz single phase supplies.

CD545-25 6-place rotor

Gerber centrifuges – *see DA450/DA460.*

SUPPLY OF HAND CENTRIFUGES
We cannot supply these centrifuges for use in the UK. Please check before ordering that the use of this type of centrifuge is permitted in the country where it is to be operated.

Mikro 200

Hettich

A low-cost, compact, micro-centrifuge.

- Maximum speed 15000rpm
- 0 to 99 minute 59 seconds timer
- Pulse control
- 4 programme memory storage

Mikro 200
As described. Maximum speed 15000rpm, with digital control, 0 to 99 minute 59 seconds timer and pulse key. Overall 260 x 275 x 344mm H x W x D. Weight 12kg. For 230V 50/60Hz single phase supplies. Without rotor, adapters or tubes.

CD590-14 Mikro 200

Accessory Angle Rotors
Supplied singly.

CD593-16 24 x 1.5/2ml Max. rpm/rcf 15000/21382xg

CD593-18 30 x 1.5/2ml Max. rpm/rcf 15000/20627xg

Accessory Adapters
Supplied singly.

CD594-05 1 x 0.2/0.4ml (6 x 45mm o.d. x L, max.)

CD594-07 1 x 0.5/0.8ml (8 x 45mm o.d. x L, max.)

CD594-09 1 x 1.5ml* (11 x 38mm o.d. x L, max.)

*Recommended when centrifuging 1.5ml tubes at high speeds.



CD505-10 with CD505-33



CD530-40



CD545-25



CD540-10, CD540-20 is similar



CD590-14

Centrifuges

Hettich Mikro 220/R

- Standard and refrigerated models
- Maximum capacity 24 x 1.5/2.2ml (6 x 50ml-Mikro 220R only)
- Digital setting rpm/rcf, time period (and temperature – Mikro 220R only)
- Quiet running, with rapid acceleration

Mikro 220
As described. Maximum speed 18000rpm, rcf 31514xg according to rotor selected. 1 second to 99 minute timer, continuous run facility and pulse key. Overall 313 x 330 x 420mm H x W x D. Weight 21kg. For 230V 50/60Hz single phase supplies. Without rotor, accessories or tubes.

CD600-74 Mikro 220

Mikro 220R, refrigerated
As CD600-74 but with integral cooling unit. Chamber temperature can be set between –20°C and +40°C. Overall 313 x 303 x 650mm H x W x D. Weight 42kg. For 230V 50/60Hz single phase supplies. Without rotor, accessories or tubes.

CD600-79 Mikro 220R

Accessory Swing-Out Rotor
Maximum rpm/rcf 13000/18516xg.

CD600-82 For 24 x 1.5/2.2ml tubes

Accessory Fixed Angle Rotors
Angle rotor. Maximum rpm/rcf 14000 /18845xg. For use with PCR tubes or tube strips.

CD600-83 For 48 x 0.2ml PCR tubes

Angle rotor with standard lid. Maximum rpm/rcf 18000/25718xg.

CD600-86 For 12 x 1.5/2.2ml tubes

Angle rotor with sealed lid. Maximum rpm/rcf 18000/31514xg.

CD600-87 For 24 x 1.5/2.2ml tubes

Angle rotor. Maximum rpm/rcf 6000/4146xg. For use with CD600-79 only.

CD600-92 For 12 x 15ml (17 x 120mm) tubes

Angle rotors for 6 x 50ml round bottom tubes, 34 x 100mm diameter x height. Maximum rpm/rcf 6000/4025xg. For use with CD600-79 only.

CD600-94 For 6 x 50ml (34 x 100mm) tubes

CD600-95 1 x 50ml conical (29 x 115mm) tube adapter. Max. rcf 3824xg. 6 required

Hettich Universal Models 320/320R

- Standard and refrigerated models
- Maximum capacity 6 x 85ml
- Safety features include rotor recognition, imbalance detector and overspeed protection
- Maintenance free induction drive
- Digital control and display of rpm/rcf, time period (and temperature – Universal 320R only)

Universal 320
As described. Maximum speed 5000rpm swing-out, 15000rpm angle, maximum rcf 21382xg, according to rotor/accessories selected. With 10 programme memory and 1 to 99 minute timer with continuous run setting. Overall 346 x 395 x 520mm H x W x D. Weight 31kg. For 230V 50/60Hz single phase supplies. Without rotor, accessories or tubes.

CD625-25 Universal 320

Universal 320R, refrigerated
As CD625-25 but with integral hermetically sealed cooling unit. Chamber temperature can be set between –20°C and +40°C. Overall 346 x 401 x 695mm H x W x D. Weight 53kg. For 230V 50/60Hz single phase supplies. Without rotor, accessories or tubes.

CD625-37 Universal 320R

No of tubes x capacity	*Tube dia. x length, mm*	*Rotor*	*Carrier/ Bucket/Adapter*	*Maximum rpm/rcf xg*
Swing-Out Rotors				
4 x 100ml	44 x 100	***CD625-50***	***CD627-15***	5000/2558
16 x 15ml	17 x 100	***CD625-50***	***CD627-15/CD627-26***	5000/2540
4 x 25ml*†	25 x 110	***CD625-50***	***CD627-15/CD627-22***	5000/2665
4 x 50ml*	29 x 115	***CD625-50***	***CD627-15/CD627-19***	5000/2665
4 x 15ml*	17 x 120	***CD625-50***	***CD627-15/CD627-30***	5000/2665
8 x 50ml*	29 x 115	***CD625-54***	—	5000/3857
2 x microplates	—	***CD625-61***		5000/2218
Fixed Angle Rotors				
6 x 85ml	38 x 106	***CD625-68***	—	9000/9509
30 x 1.5/2.2ml	—	***CD625-79***	—	14000/21255
12 x 1.5/2.2ml	—	***CD625-82***	—	15000/16602

*Primarily for use with Falcon-type, conical base tubes. † For use with disposable universal bottles.

Accessory Rotors

CD625-50 4-place swing-out x 100ml. Without buckets or carriers

CD625-54 8-place swing-out x 50ml. With buckets

CD625-61 2-place swing-out for microplate carriers CD625-62 Max. rpm/rcf 4000/2218xg

CD625-68 6-place fixed angle x 85ml

CD625-79 30-place fixed angle x 1.5/2.2ml

CD625-82 12-place fixed angle x 1.5/2.2ml

Note: There are no accessories for fixed angle rotors CD625-68, CD625-79 or CD625-82

Accessory Buckets/Carriers/Adapters
The number of buckets, carriers, cushions and adapters must equal the number of rotor places. Supplied singly.

CD627-15 1 x 100ml bucket for rotor CD625-50

CD627-62 Microplate carrier only for 4 x microplates with lid. For CD625-61

CD627-17 1 x 100ml tube cushion for bucket CD627-15

CD627-18 1 x hermetic sealing lid for bucket CD627-15

CD627-19 1 x 50ml conical adapter for bucket CD627-15

CD627-22 1 x 25ml conical adapter for bucket CD627-15

CD627-26 4 x 15ml adapter for bucket CD627-15

CD627-30 1 x 15ml conical adapter for bucket CD627-15



CD600-79, CD600-74 is similar



CD625-37

CD625-25

Hettich Benchtop Centrifuges Rotina 380/380R

- Standard and refrigerated models
- Maximum capacity 4 x 250ml using accessory rotors
- Digital control and display of rpm/rcf, time period (and temperature Rotina 380R only)
- Simple touch key operation
- Stainless steel lined chamber and lid
- Choice of swing-out and angle rotors
- Safety features include:
  — rotor recognition — imbalance detector — overspeed protection
- Maintenance free induction drive for smooth and quiet operation

Catalogue No.		***CD650-57***	***CD650-62***
Model		Rotina 380	Rotina 380R
Maximum speed			
Swing-out rotor	*rpm*	5000	5000
Fixed angle rotor	*rpm*	15000	15000
Maximum rcf			
Swing-out rotor	*xg*	4560	4560
Fixed angle rotor	*xg*	23650	23650
Maximum volume			
Swing-out rotor	*ml*	4 x 100	4 x 100
Fixed angle rotor	*ml*	6 x 85	6 x 85
Timer	*minutes*	1 to 99 and continuous, with pulse key	

Benchtop Centrifuge Rotina 380
As described. Overall 418 x 457 x 600mm H x W x D. Weight 51kg. For 230V 50/60Hz single phase supplies. 670W. Without rotors, accessories or tubes.

CD650-57 Rotina 380

Benchtop Centrifuge Rotina 380R, refrigerated
As CD650-57 but with integral hermetically sealed cooling unit. Chamber temperature can be set between –20°C and +40°C and a pre-cooling programme can be used to ensure that samples maintain their required temperature when placed into the centrifuge. Overall 418 x 457 x 750mm H x W x D. Weight 78kg. For 230V 50Hz single phase supplies. 1050W. Without rotor, accessories or tubes.

CD650-62 Rotina 380R

Accessory Swing-Out Rotors

CD650-66 4-place x 100ml. Without buckets. Maximum rpm/rcf 5000/4863xg

CD650-67 10-place x 50ml (29 x 116mm) Falcon-type conical tubes. With buckets. Maximum rpm/rcf 4000/2916xg

CD650-68 4-place x 250ml (65 x 115mm) tubes. Without buckets. Maximum rpm/rcf 4000/3095xg

CD650-71 2-place microtitre plate rotor. Without carriers. Maximum rpm/rcf 4000/2397xg

Accessory Fixed Angle rotors

CD650-73 6-place x 85ml (38 x 101mm) tubes. Maximum rpm/rcf 10000/13528xg (11000/16369xg refrigerated)

CD650-77 30-place x 1.5/2.2ml tubes. Maximum rpm/rcf 15000/24400xg

Accessory Buckets/Carriers/Adapters
The number of buckets, carriers and adapters must equal the number of rotor places. Supplied singly.

For 4-place Swing-Out Rotor, CD650-66

CD652-13 1 x 100ml bucket

CD652-15 1 x hermetic sealing lid for bucket CD652-13

CD652-20 1 x 100ml (40 x 115mm tubes) adapter for bucket CD652-13. Max rcf 4640xg

CD652-21 3 x 50/75ml (34 x 100/105mm tubes) adapter for bucket CD652-13. Max rcf 4668xg

CD652-23 6 x 25ml (24 x 100mm tubes) adapter for bucket CD652-13. Max rcf 4668xg

CD652-27 13 x 9-15ml (14/17 x 70/100mm tubes) adapter for bucket CD652-13. Max rcf 4668xg

CD652-36 24 x 4-7ml (12 x 60/100mm tubes) adapter for bucket CD652-13. Max rcf 4668xg

CD652-39 36 x 1.5/2.0ml reaction tube adapter for bucket CD652-13. Max rcf 3494/4779†xg

†Upper/lower tier.

For 10-place Swing-Out Rotor, CD650-67

CD652-95 1 x 15ml* (17 x 120mm conical tube) adapter. Max rcf 2916xg

For 4-place Swing-Out Rotor, CD650-68

CD653-10 1 x 250ml bucket

CD653-13 1 x hermetic sealing lid for bucket CD653-10

CD653-16 12 x 7ml (12 x 100mm tube) adapter for bucket CD653-10. Max rcf 3005xg

CD653-25 7 x 12ml (17 x 100mm tube) adapter for bucket CD653-10. Max rcf 3005xg

CD653-27 7 x 15ml* (17 x 120mm conical tube) adapter for bucket CD653-10. Max rcf 3095xg

CD653-31 4 x 30ml (25 x 110mm tube/universal) adapter for bucket CD653-10. Max rcf 2898xg

CD653-33 2 x 50ml* (29 x 115mm conical tube) adapter for bucket CD653-10. Max rcf 3095xg

CD653-38 1 x 250ml cushion/collar (65 x 115mm tube) adapter for CD653-10. Max rcf 3095xg

*These adapters are primarily for use with Falcon-type conical base tubes.

For 2-place Microtitre Plate Rotor, CD650-71

CD654-19 1 x carrier which accepts 4 x microtitre plates with lids



CD650

Hettich Benchtop Centrifuges Rotanta 460/460R

High capacity, standard and refrigerated models for routine clinical chemistry, pharmaceutical development, research and pharmacology.

- Maximum capacity 4 x 750ml
- Microprocessor controlled with easy to use touch keypad
- Digital setting and display of speed or rcf and time (CD725-30 also has temperature setting and display)
- Adjustable acceleration and brake rates
- Maintenance free induction drive for smooth and quiet operation
- Safety features include:
  - — rotor recognition
  - — imbalance detector
  - — overspeed protection
  - — motor overheat protection
- Stainless steel lined chamber and lid
- Fully automatic lid locking mechanism

Catalogue No.		***CD725-10***	***CD725-30***
Model		Rotanta 460	Rotanta 460R
Maximum speed			
Swing-out rotor	*rpm*	4500	4500
Fixed angle rotor	*rpm*	15000	15000
Maximum rcf			
Swing-out rotor	*xg*	4460	4460
Fixed angle rotor	*xg*	24400	24400
Maximum volume			
Swing-out rotor	*ml*	4 x 750	4 x 750
Fixed angle rotor	*ml*	6 x 94	6 x 94
Timer	*minutes*	1 to 99 and continuous, with pulse key	

Benchtop Centrifuge Rotanta 460

As described. Overall 450 x 550 x 707mm H x W x D. Weight 111kg. For 230V 50/60Hz single phase supplies. 1400W. Without rotor, accessories or tubes.

CD725-10 Rotanta 460

Benchtop Centrifuge Rotanta 460R, refrigerated

As CD725-10 but with integral hermetically sealed cooling unit. Chamber temperature can be set between –20°C and +40°C and a pre-cooling programme can be used to ensure that samples maintain their required temperature when placed into the centrifuge. Overall 450 x 765 x 707mm H x W x D. Weight 142kg. For 230V 50Hz single phase supplies. 1800W. Without rotor, accessories or tubes.

CD725-30 Rotanta 460R

Accessory Swing-out rotors

CD728-60 4-place x 750ml. Without buckets or adapters. Maximum rpm/rcf 4600/5063xg

CD728-67 4-place x 100ml ASTM D96 tubes. Without buckets or adapters. Maximum rpm/rcf 2000/984xg

Accessory Fixed-angle rotors

CD728-72 30-place x 0.4/1.5ml tubes. With lid. Maximum rpm/rcf 15000/24400xg

CD728-79 6-place x 94ml (38 x 106mm) tubes. With lid. Maximum rpm/rcf 11500/18038xg

Accessory Buckets/Adapters/Carriers/Lids

The number of buckets, carriers and adapters must equal the number of rotor places. Supplied singly.

For 4-place Swing-out rotor, CD728-60

CD729-04 1 x 250ml (65 x 115mm tube) rectangular bucket. Maximum rcf 4392xg

CD729-06 1 x Aerosol-tight lid for bucket CD729-04

CD729-07 17 x 15ml (17 x 100mm tube) adapter for bucket CD729-04

CD729-08 6 x 25ml* (24 x 100mm conical tube) adapter for bucket CD729-04

CD729-10 3 x 50ml (35 x 105mm tube) adapter for bucket CD729-04

CD729-13 3 x 85ml (38 x 106mm tube) adapter for bucket CD729-04

CD729-15 2 x 100ml (44 x 100mm conical tube) adapter for bucket CD729-04

CD729-17 1 x 250ml (65 x 115mm tube) adapter for bucket CD729-04

CD729-20 1 x 750ml (97 x 136mm bottle) bucket. Maximum rcf 4779xg

CD729-22 1 x Aerosol-tight lid for bucket CD729-20

CD729-24 1 x 750ml (97 x 136mm tube) adapter for bucket CD729-20

CD729-40 4 x Microtitre plate carrier with lid. Max rcf 4235xg

CD729-42 4 x Microtitre plate insert for CD729-40

For 4-place Swing-out rotor, CD728-67

CD729-45 1 x ASTM D96 bucket

CD729-46 1 x adapter (holds CF380-10) for bucket CD729-45

CD729-47 1 x adapter (holds CF380-14) for bucket CD729-45

CD729-48 1 x adapter (holds PE814-24) for bucket CD729-45

For 30-place Fixed-angle rotor, CD728-72

CD729-50 1 x 0.4ml tube insert adapter

CD594-07 1 x 0.5/0.8ml tube insert adapter

For 6-place Fixed-angle rotor, CD728-79

CD729-68 1 x 15ml* (17 x 120mm conical tube) adapter

CD729-70 1 x 25ml (24 x 100mm tube) adapter

CD729-74 1 x 50ml (29 x 107mm tube) adapter

*These adapters are primarily for use with Falcon-type conical base tubes.



CD725-10



CD725-30 in use

Micro-Haematocrit Centrifuge Hawksley Haematospin 1300

A totally dedicated compact centrifuge for the determination of red cell packed volume by the micro-haematocrit method.

Accepts up to 24 capillary tubes which are spun at 11800rpm (13000xg rcf). Cycle time from 5 seconds to 30 minutes controlled by a programmable timer which digitally displays time remaining as it is counted down. An automatic brake operates at the end of the cycle and a STOP message is displayed. This changes to an OPEN message when the rotor has halted and the safety lid lock, which operates whilst the rotor is running, has released. Other safety features include a mild steel guard barrier around the centrifuge bowl, steel plate in the lid to protect against rotor or sample failure, and imbalance detector. The outer case is constructed in epoxy coated sheet steel and includes a sealed switch panel with touch sensitive controls combining to produce an easily cleaned surface. Overall 245 x 230 x 280mm H x W x D, lid closed.

Micro-Haematocrit centrifuge, Hawksley
With rotor for 24 capillary tubes. For 220-240V 50Hz single phase supplies.

CE800-10 Haematospin 1300

Accessories

Micro-Haematocrit reader
Provides quick, accurate readings of packed cell volume on samples with total fluid column heights between 40 and 70mm high.

CE805-10 Haematocrit reader

Rotoreader
Fits the centrifuge rotor. All 24 micro-haematocrits are read directly while still on the rotor.

CE805-55 Rotoreader
CE806-08 Heparinised tubes, capacity 59µl, length 75mm, pack of 1000
CE806-14 Plain tubes, pack of 1000
CE806-18 Cristaseal sealing material in tray marked to show the correct filling volume and labelled for sample identification, pack of 10 trays
CM115-10 Disposable blood lancets, pack of 200



CE800

Gerber Centrifuges

Gerber Centrifuge, Universal
Highly flexible, easy to use, dairy testing centrifuge with push-button operation and LCD display.

- Speed range 200 to 1300rpm
- Four, pre-selectable, precisely monitored speeds for specific tests:
  - — Gerber fat test using butyrometers (350xg)
  - — Solubility index test in milk powders (164xg)
  - — Fat extraction according to Mojonnier (80xg)
  - — Custom speed set by the user
- Safety features include lid interlock and imbalance detector

As described. With robust steel outer casing, lid with interlock and LCD display of speed, time (and temperature when option fitted). Supplied with 12-place universal swing-out rotor. Overall 640 x 640 x 450mm W x D x H. Weight 47kg. For 230V 50/60Hz single phase supplies. Without buckets or heating module.

DA450-40 Universal centrifuge

Full details and accessories can be found in the Dairy Testing Section.

Gerber Centrifuge, Micro II
For small-scale determination of fat levels in milk and dairy products. Fixed speed, providing 350xg r.c.f. with automatic brake. Microprocessor controlled, with digital setting and readout of time (0 to 60 minutes) and chamber temperature (ambient +5 to +65°C) with selectable preheating. Supplied with rotor to hold 8 x butyrometer tubes, steel outer casing and lid interlock which prevents opening whilst the rotor is spinning. Overall 430 x 460 x 280mm W x D x H. Weight 20kg. For 230V 50Hz single phase supplies.

DA460-10 Micro II centrifuge

Solubility Index and Mojonnier tubes are available – *details on request*.


DA450-40


DA460-10

Microcentrifuge Tubes up to 2ml Capacity

Reference Code:
B = Brand
C = Corning
E = Elkay
St = Sterilin

Materials Code:
Pp = Polypropylene

All tubes have rim and are natural colour unless otherwise stated.

Catalogue No	Capacity	Material	RCF (xg)	Cap type	Self standing	Sterile	Ref.	Qty
CF300-34	500µl	Pp	20000	Captive plug	—	—	E (M050)	1000
CF300-38	600µl	Pp*	20000	Captive plug	—	—	E (M069)	500
CF304-15	1.5ml	Pp	13000	Captive screw	—	✓	C (430909)	500
CF306-10	1.5ml	Pp	16000	Captive plug	—	—	E (M150)	1000
CF306-15	1.5ml	Pp	20000	Captive plug	—	✓	B (7804 00)	450
CF306-20	1.5ml	Pp	20000	Captive plug	—	—	St (2150N)	10000
CF306-26	1.5ml (Blue)	Pp	20000	Captive plug	—	—	E (M152)	1000
CF306-27	1.5ml (Green)	Pp	20000	Captive plug	—	—	E (M153)	1000
CF306-29	1.5ml (Red)	Pp	20000	Captive plug	—	—	E (M157)	1000
CF308-45	2.0ml	Pp	13000	Screw	✓	✓	C (430917)	500
CF308-47	2.0ml	Pp	18000	Captive plug	—	—	E (M200)	1000
CF308-49	2.0ml	Pp*	25000	Captive plug	—	—	E (M209)	250

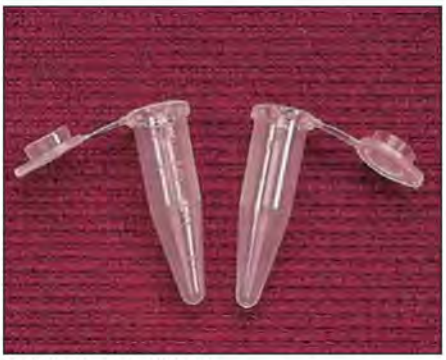
*Low-adhesion resin which is DNase- and RNase-free.

Microcentrifuge Tubes, FlipTube®
Unique design, 1.5ml microcentrifuge tubes in autoclavable polypropylene, with flip lid allowing one-handed opening and closure without contact with the rim, reducing the possibility of contamination. Maximum rcf 20,000xg. DNAse and RNAse free. With pierceable lid, graduations and marking areas on side and lid. Supplied in packs of 500.

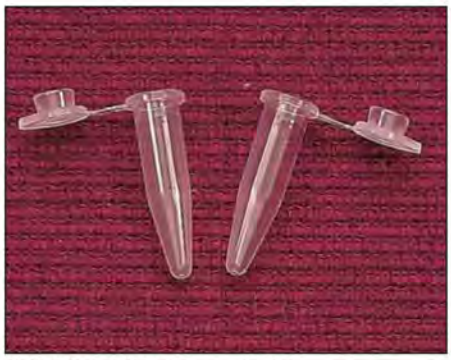
Catalogue No	Ref.	Colour
CF307-10	FTN	Natural
CF307-14	FTR	Red
CF307-18	FTY	Yellow
CF307-22	FTB	Blue
CF307-26	FTG	Green
CF307-30	FTBK	Black

Microcentrifuge tube filters – *see FC395.*

Thin-walled microtubes and PCR tubes – *see MW710/MW730 and MW760/MW764.*


CF306-10 to CF306-17


CF307-10 in use


CF300-34, CF300-38 are similar


CF306-26 to CF306-29 in use with SM575


CF308-45


CF304-15


CF306-40, CF308-49


CF308-47

Centrifuge Tubes

10 to 15ml Capacities

Reference Code:
C = Corning
Ct = Celltreat
E = Elkay
S = Scilabware
St = Sterilin

Materials Code:
Bs = Pyrex borosilicate glass
MPs = Modified polystyrene
PET = Polyethylene terephthalate
Pp = Polypropylene
Ps = Polystyrene
Sl = Soda-lime glass

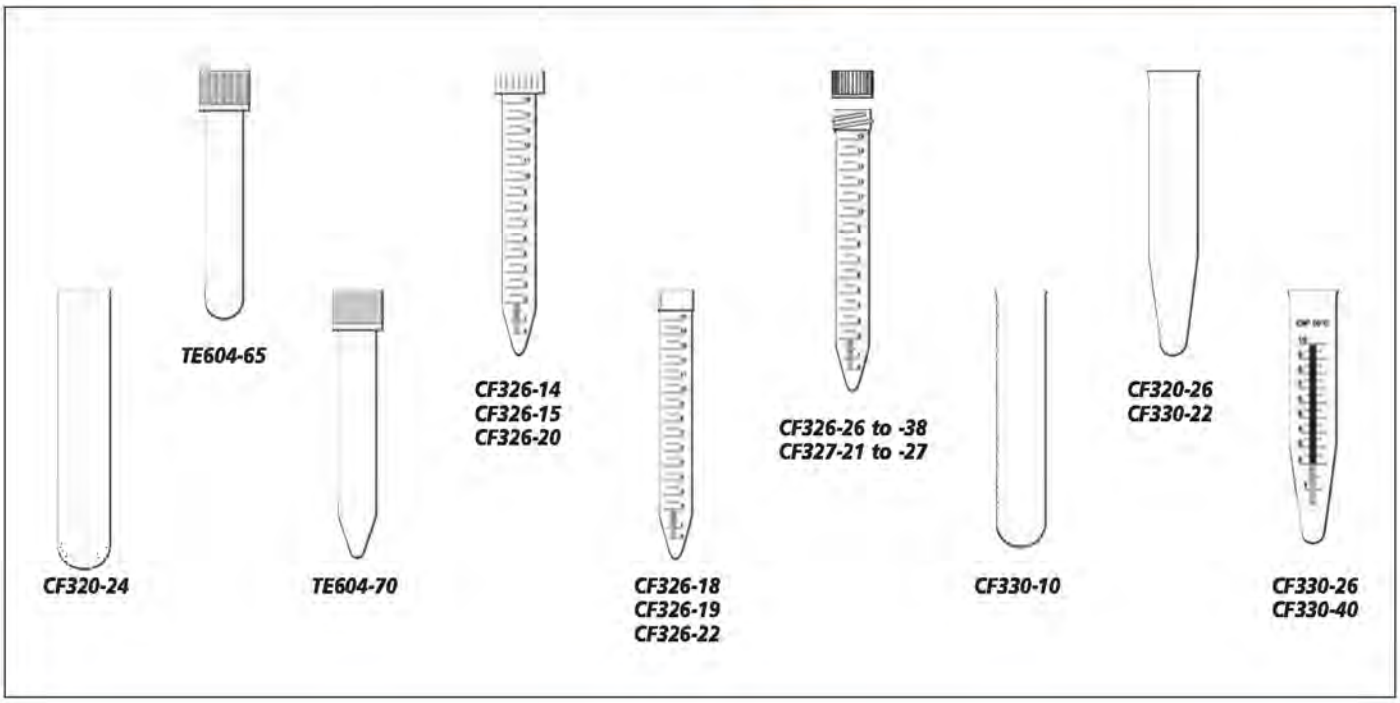
Caps Code:
F = Flat top rim seal type
P = Push-on plug seal type
S = Screw type
W = Write-on panel

All tubes have rim unless otherwise specified. Graduations are moulded-in, unless otherwise specified.

Cat. No.	*Capacity*	*Material*	*Shape*	*RCF (xg)*	*Grad.*	*L x dia. (mm)*	*Cap*	*Sterile*	*Ref.*	*Qty.*
CF320-24	10ml	Bs	Straight rimless	3000	—	90 x 16	—	—	B (1660/02)	Each
CF320-26	12ml	Bs	Conical	3000	—	110 x 17	—	—	B (1680/02)	Each
TE604-65	13.5ml	Ps	Straight	8000	—	100 x 16	S	✓	St (142AS)	450
TE604-70	13.5ml	Ps	Conical	8000	—	100 x 16	S	✓	St (144AS)	450
CF326-14	15ml	PET	Conical	3600	✓	122 x 23	P	✓	C (430055)	500*
CF326-15	15ml	PET	Conical	3600	✓	122 x 23	P	✓	C (430053)	500
CF326-18	15ml	Ps	Conical	1800	✓	120 x 18	—	—	E (150)	1000
CF326-19	15ml	Pp	Conical	12000	✓	122 x 23	FW	✓	C (430790)	500*
CF326-20	15ml	Pp	Conical	12000	✓	122 x 23	P	✓	C (430052)	500*
CF326-22	15ml	Pp	Conical	6250	✓	118 x 17	—	—	E (151)	1000
CF326-26	15ml	Ps	Conical	1800	✓	118 x 17	S	—	E (2087)	1000
CF326-30	15ml	Pp	Conical	6250	✓	118 x 17	S	—	E (2088)	1000
CF326-38	15ml	Pp	Conical	6250	✓	118 x 17	S	✓	E (2098)	500*
CF327-21	15ml	Pp	Conical	12000	✓ (printed)	120 x 17	S	✓	St (15CTB)	500
CF327-23	15ml	Pp	Conical	12000	✓ (printed)	120 x 17	S	✓	St (15CTR)	500†
CF327-25	15ml	Pp**	Conical	12000	✓ (printed)	120 x 17	S	✓	St (15CTBP)	500
CF327-27	15ml	Pp**	Conical	12000	✓ (printed)	120 x 17	S	✓	St (15CTRP)	500†
CF330-10	15ml	Sl	Straight	1300	—	111 x 17	—	—	—	Each
CF330-22	15ml	Sl	Conical	1300	—	111 x 17	—	—	—	Each
CF330-26	15ml	Sl	Conical	1300	✓	111 x 17	—	—	—	Each
CF330-40	15ml	Bs	Conical	3000	✓	110 x 17	—	—	S (3460/02)	Each

*Supplied in racks of 50 within the outer pack quantity. †Supplied in racks of 25 within the outer pack quantity.
**Non-pyrogenic, RNase-, DNase- and human DNA-free.

SAFETY NOTE
Relative centrifugal force (RCF) figures stated are maxima in ideal environmental conditions. The mechanical strength of tube materials can vary with exposure to certain reagents or with temperature changes. Care should be taken when using tubes at or near their operating limit.



Centrifuge Tubes

25 to 500ml Capacities, for Nalgene Plastic Tubes - see next page

All tubes have rim unless otherwise specified. Graduations are moulded-in, unless otherwise stated.

Cat. No.	Capacity	Material	Shape	RCF (xg)	Grad.	L x dia. (mm)	Cap	Sterile	Ref.	Qty.
25 and 45ml capacity										
CF340-10	25ml	Bs	Straight	3000	—	90 x 24	—	—	S (1660/06)	Each
CF360-40	45ml	Bs	Straight	3000	—	90 x 30	—	—	S (1660/08)	Each
50 and 100ml capacity										
CF365-18	50ml	Pp	Conical	12000	✓ (printed)	115 x 31	S	✓	St (50CTB)	500
CF365-22	50ml	Pp	Conical	12000	✓ (printed)	115 x 31	S	✓	St (50CTR)	500†
CF365-26	50ml	Pp	Conical self-standing	6000	✓ (printed)	115 x 31	S	✓	St (50CTS)	500
CF365-30	50ml	Pp**	Conical	12000	✓ (printed)	115 x 31	S	✓	St (50CTBP)	500
CF365-34	50ml	Pp**	Conical	12000	✓ (printed)	115 x 31	S	✓	St (50CTRP)	500†
CF368-11	50ml	Pp	Conical	9400	✓ (printed)	116 x 28	S	—	—	500
CF368-12	50ml	Pp	Conical	9400	✓ (printed)	116 x 28	S	✓	Ct (229420)	500†
CF368-16	50ml	Pp	Conical	9400	✓ (printed)	116 x 28	S	✓	Ct (229421)	500
CF368-18	50ml	Pp	Conical self-standing	6000	✓ (printed)	117 x 28	P	✓	Ct (229430)	500
CF368-19	50ml	Pp	Conical self-standing	6000	✓ (printed)	117 x 28	P	—	—	500
CF370-08	50ml	PET	Conical	3600	✓	116 x 29	P	✓	C (430304)	500†
CF370-20	50ml	Pp	Conical self-standing	3000	✓ (printed)	116 x 29	P	✓	C (430897)	500
CF370-22	50ml	Pp	Conical	15500	✓ (printed)	116 x 29	P	—	C (430290)	500†
CF370-23	50ml	Pp	Conical	15500	✓	116 x 29	P	✓	C (430291)	500
CF370-26	50ml	Pp	Conical self-standing	3000	✓ (printed)	116 x 29	FW	✓	C (430921)	500
CF370-27	50ml	Pp	Conical	15500	✓ (printed)	116 x 29	FW	✓	C (430829)	500
CF370-28	50ml	Pp	Conical	15500	✓ (printed)	116 x 29	FW	✓	C (430828)	500†
CF370-32	50ml	Pp	Conical	6000	✓	116 x 29	S	—	E (2092)	500
CF370-38	50ml	Pp	Conical	6000	✓	115 x 28	S	✓	E (2090)	500
CF380-10	100ml	Bs	Pear	1500	✓	ASTM D96	—	—	S (3440/02)	Each
CF380-14	100ml	Bs	Conical (200mm)	2500	✓	ASTM D96	—	—	S (3450/02)	Each
PE814-24	100ml	Bs	Conical (167mm)	1700	✓	ASTM D96	—	—	—	6
250 and 500ml capacity										
CF400-20	250ml	Pp	Conical	6000	✓	172 x 60	P	✓	C (430776)	102
CF400-26	PEI (polyetherimide) cushion for CF400-20								C (430236)	6
CF400-40	500ml	Pp	Conical	6000	✓	147 x 96	P	✓	C (431123)	36
CF400-46	PEI (polyetherimide) cushion for CF400-40								C (431124)	6

†Supplied in racks of 25 within the outer pack quantity. **Non-pyrogenic, RNase-, DNase- and human DNA-free.

SAFETY NOTE

Relative centrifugal force (RCF) figures stated are maxima in ideal environmental conditions. The mechanical strength of tube materials can vary with exposure to certain reagents or with temperature changes. Care should be taken when using tubes at or near their operating limit.



CF340-10
CF360-40



CF365-18
CF365-22
CF365-30
CF365-34
CF368-11
CF368-12
CF368-16
CF370-08
CF370-22
CF370-23
CF370-27
CF370-28
CF370-32
CF370-38



CF365-26
CF368-18
CF368-19
CF370-20
CF370-26



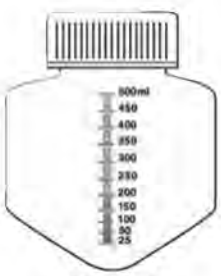
CF380-10



CF380-14
PE814-24



CF400-20



CF400-40

Centrifuge Tubes

Nalgene Tubes and Bottles

All dimensions and capacities are nominal.

Conical, polypropylene, graduated, rimless
Autoclavable. For non-refrigerated low speeds up to 6000xg. Supplied in packs of 10.

	Ref. 3103-	*Cap. ml*	*L x dia. mm*
CF604-22	0015	15	119 x 17
CF604-32	0050	50	134 x 28.5

Conical, polycarbonate, graduated, rimless
Transparent, autoclavable. For low speeds up to 6000xg. Supplied in packs of 10.

	Ref. 3105-	*Cap. ml*	*L x dia. mm*
CF608-18	0015	15	120.2 x 17
CF608-28	0050	50	135 x 29

Straight, polypropylene, rimless
Autoclavable. For non-refrigerated speeds up to 50000xg. Supplied in packs of 10.

	Ref. 3110-	*Cap. ml*	*L x dia. mm*
CF640-16	0120	12	103 x 16
CF640-18	0150	15	114 x 16
CF640-20	0160	16	100 x 18
CF640-34	0500	50	103 x 28.7

Straight, polycarbonate, rimless
Transparent, autoclavable. For use at speeds up to 50000xg. Supplied in packs of 10.

	Ref. 3117-	*Cap. ml*	*L x dia. mm*
CF655-16	0120	12	104 x 16
CF655-18	0150	15	114.5 x 16
CF655-20	0160	16	101 x 18
CF655-34	0500	50	104 x 29.5

Bottles, polycarbonate
Transparent, autoclavable. With polypropylene narrow mouth screw cap. Supplied in packs of 4.

Maximum speed ratings:

250ml – 27500xg
500ml – 13700xg
1000ml – 7100xg

	Ref. 3122-	*Cap. ml*	*L x dia. mm*
CF830-20	0250	250	128 x 62
CF830-30	0500	500	170 x 69.5
CF830-40	1000	1000	188.4 x 97.6

Important Warning
Sterilising Centrifuge Ware
Some tubes and bottles where indicated can be sterilised by autoclaving. However BEFORE AUTOCLAVING (or sterilising by gas or dry heat) the cap or closure must either be removed or just set on top of the container **WITHOUT ENGAGING THE THREAD.**

Nalgene Oak Ridge Tubes

All dimensions and capacities are nominal.

All tubes are autoclavable and can be used in refrigerated and non-refrigerated centrifuges up to 50000xg.

Supplied with non-contaminating screw cap without liner which is leakproof during ordinary use outside the centrifuge.

Length x diameter:

10ml 81 x 16mm
30ml 95 x 26mm
50ml 107 x 29mm

Polycarbonate, transparent, with polypropylene screw cap

	Ref. 3118-	*Cap. ml*	*Pack qty.*
CF900-10	0010	10	10
CF900-30	0030	30	10
CF900-45	0050	50	10

Polyallomer, transparent, with polypropylene screw cap

	Ref. 3119-	*Cap. ml*	*Pack qty.*
CF915-10	0010	10	10
CF915-30	0030	30	10
CF915-45	0050	50	10

PTFE/FEP, with ETFE screw cap

	Ref. 3114-	*Cap. ml*	*Pack qty.*
CF935-10	0010	10	2
CF935-18	0030	30	2
CF935-25	0050	50	2


CF604


CF608


CF655


CF900


CF640


CF830


CF915, CF935 is similar

Models 926 and 926S

Sherwood

For the rapid determination of chlorides in solution.

Model 926 Industrial applications: Chloride in food manufacture, processing and quality control. Particularly suitable for the analysis of dairy, cheese, meat, fish, seasoning and snackfood products. Many other applications in the paper, fabric, cement and plating industries.

Model 926S Clinical applications: Chloride in biological samples such as serum, plasma, urine, sweat and CSF

- mg/litre and mg% salt ranges (Industrial model)
- mmol/litre range (Clinical model)
- Status and Error Code prompts
- Microprocessor controlled
- Built-in RS232 output
- Simple operation – 3 push button controls
- Captive magnetic stirrer – no stirrer bars to lose

Model	926 Industrial model	926S Clinical model
Range	10 to 999mg/litre Cl 2 to 165mg% salt	10 to 299mmol/litre Cl
Reproducibility	±3mg/litre or ±1% whichever is the greater	0.1ml sample <1% 0.02ml sample <1.5%
Accuracy	Within ±3mg/litre at the 200mg/litre level	Within 2.2mmol/litre at the 100mmol/litre level
Sample Volume	0.5ml	0.1ml or 0.02ml
Overall dimensions	200 x 250 x 315mm high — both models	
Weight	5.4kg — both models	

As described. With built-in RS232 output to allow results and sample number to be printed or downloaded to a computer. Supplied complete with electrodes, reagent pack, printer cable and 2 graduated beakers. For 110, 115, 200, 230, 240V 50/60Hz supplies.

CH450-25 926 Mk 3 Industrial
CH450-30 926S Clinical

Accessories

CH452-06 Silver anodes, pack of 3
CH452-08 Silver electrodes (one cathode plus two detectors)
CH452-12 Electrode polish

Combined acid buffer reagent. Supplied in UN-approved bottles.

CH452-15 Acid buffer reagent, pack 500ml
CH452-18 Sample beaker, graduated
CH452-30 Industrial standard 200mg/litre, pack of 6 x 100ml bottles
CH452-32 Clinical standard 100mmol/litre, pack of 6 x 100ml bottles

Impact printer assembly for use with CH450-series, allowing print-out sample number and results. With connecting cable, adapter and print roll. Requires a 110, 240V single phase supply.

CH452-47 Impact printer for use with CH450-series

Colorimetric Chloride determinations - *see Colorimeter section.*



CH450

Chromatography Papers

Whatman®

Sheets Plain

Grade	Box qty.	100 x 300mm	200 x 200mm	250 x 250mm	315 x 355mm	460 x 570mm	580 x 680mm
1Chr	100	CJ300-10	CJ300-20	CJ300-30	—	CJ300-40	—
3Chr	100	—	—	—	—	CJ308-40	—
3MMChr	100	—	CJ312-20	—	CJ312-34	CJ312-40	CJ312-50
4Chr	100	—	—	—	—	CJ316-40	—
17Chr	25	—	—	—	—	CJ320-40	—
DE81	25	—	—	—	—	CJ336-40	—
P81	25	—	—	—	—	CJ340-40	—
SG81	25	—	—	—	—	CJ348-40	—

Reels

Grade	Length	Widths available 10mm	20mm	30mm	40mm	50mm
1Chr	100m	CJ500-12	CJ500-14	CJ500-16	CJ500-18	CJ500-22

Reels continued

Grade	Length	Widths available 100mm	150mm	190mm	230mm	270mm
1Chr	100m	CJ500-28	CJ500-34	—	—	—
3MMChr	100m	CJ504-28	CJ504-34	CJ504-36	CJ504-42	CJ504-44

Discs

Grade	Pack qty.	Diameter 23mm
DE81	400	CJ515-10

Grade Comparison

Flow rates given are linear per 30 minutes.

Grade	Flow mm/30minutes	Thickness mm	Material
1Chr	130	0.18	Pure cellulose
3Chr	130	0.36	Pure cellulose
3MMChr	130	0.34	
4Chr	180	0.21	Pure cellulose
17Chr	190	0.92	
DE81	95	0.20	Ion-exchange cellulose
P81	125	0.23	
SG81	110	0.27	Silica gel loaded cellulose



HPLC Columns

MACHEREY-NAGEL

Nucleodur® C_{18} Gravity Media

High purity silica phase for analytical HPLC. Suitable for LC/MS and HPLC at extreme pH (range pH 1 to 11) with superior base deactivation.

Packing: high-density octadecyl modification, pore size 110Å, particle size: 5µm. Carbon content: 18%.

Column i.d.: 4.6mm.

With compression screw HPLC fittings. Supplied singly.

	Particle size, µm	*Column length, mm*
CK318-02	5	100
CK318-05	5	250

Nucleodur® C_8 ec Media

EC standard columns with standard RP phase silica for routine analysis and upscaling for preparative HPLC. Offers pH stability (pH 1 to 9) and high lot-to-lot reproducibility.

Packing: medium-density octyl modification, pore size 110Å, particle size: 5µm. Carbon content: 10.5%.

Column i.d.: 4.6mm.

With compression screw HPLC fittings. Supplied singly.

	Particle size, µm	*Column length, mm*
CK318-31	5	125

Nucleodur® C_{18} ec Media

Ideal, reliable, standard RP phase silica for routine analysis and upscaling for preparative HPLC. Offer pH stability (pH 1 to 9) and lot to lot reproducibilty.

Packing: medium-density octadecyl modification, pore size 110Å, particle size: 5 or 10µm. Carbon content: 17.5%.

Column i.d.: 4.6mm.

With compression screw HPLC fittings. Supplied singly.

	Particle size, µm	*Column length, mm*
CK318-41	5	125
CK318-42	5	250
CK318-45	10	250

Nucleosil® SB Media

EC standard columns with quarternary ammonium modified silica HPLC phase with strongly basic anion exchanger (SAX). Offers pH stability of pH 2 to 8.

Packing: pore size 100Å, particle size: 5 or 10µm. Carbon content: 10%.

Column i.d.: 4.6mm

With compression screw HPLC fittings. Supplied singly.

	Particle size, µm	*Column length, mm*
CK318-51	5 5	100
CK318-52	10	125
CK318-55		250

Nucleosil® SA Media

EC standard columns with sulphonic acid modified silica phase for HPLC with strongly acidic cation exchanger (SCX). Offers pH stability of pH 2 to 8.

Packing: pore size 100Å, particle size: 10µm. Carbon content: 6.5%.

Column i.d.: 4.6mm

With compression screw HPLC fittings. Supplied singly.

	Particle size, µm	*Column length, mm*
CK318-65	10	250

Column Packing

MACHEREY-NAGEL

For column packing/re-packing by the user. Supplied in packs as indicated.

Phase media type	*Pack size*	*Particle size, 5µm*	*Particle size, 10µm*
Nucleodur® C_{18} ec	100g	—	***CK320-25***
Nucleosil® SB (SAX)	10g	***CK320-35***	***CK320-40***
Nucleosil® SA (SCX)	10g	***CK320-60***	***CK320-65***



CK318



CK320

Flexible TLC Plates

Whatman®

Silica Gel Plates
Layer 250µm. All plates are 20cm x 20cm and can be cut with scissors.

	Ref.	Pack qty.
Polyester backed		
CJ600-25	PE Sil G/UV 254*	25

* With fluorescent indicator.

U.V. Viewing Cabinet for TLC plates – *see LM400-10 in the Lamps section.*

Glass TLC Plates

Whatman®

Reverse Phase Plates
Layer 200µm.

	Ref.	Size cm	Pack qty.
CJ666-30	$LKC_{18}F$	5 x 20	75

Adsorption Plates K6 60Å
Layer 250µm except CJ700-60 which is 1000µm.

	Ref.	Size cm	Pack qty.
CJ700-60	PK6F	20 x 20	20

Flexible TLC Plates

MACHEREY-NAGEL

Silica Gel Plates, Polygram® and Alugram®
Layer 250µm. All plates are 20 x 20cm and can be cut with scissors. Silica 60, mean pore 60Å, specific surface (BET) approximately 500m²/g, specific pore volume of 75ml/g and a particle size of 5 to 17µm.

	Ref.	Pack qty.
Polygram® polyester backed		
CK565-10	Sil G	25
CK565-25	Sil G/UV_{254}*	25
Alugram® aluminium backed		
CK567-10	Sil G	25
CK567-25	Sil G/UV_{254}*	25

*With manganese activated, zinc silicate fluorescent indicator operating at 254nm.

Glass TLC Plates

MACHEREY-NAGEL

Reverse Phase Plates
HPTLC plates with concentrating zone. Mean 60Å pore, silanized silica C_{18} with mean particle size of 2 to 10µm.

	Ref.	Size, cm	Layer thickness, µm	Pack qty.
CK572-60	Nano-Sil C_{18}-100	10 x 10	200	25
CK572-75	RP-18W/UV_{254}*	20 x 20	250	25

*With fluorescent indicator operating at 254nm.

Standard Plates
Layer thicknesses as indicated. Pre-coated with silica 60 with mean pore diameter of 60Å, specific surface (BET) approximately 500m²/g, specific pore volume of 0.75ml/g and a particle size of 5 to 17µm.

	Ref.	Size, cm	Pack qty.
Layer 250µm			
CK580-30	Sil G-25	5 x 20	100
CK580-45	Sil G-25	10 x 20	50
CK580-60	Sil G-25	20 x 20	25
CK585-10	Sil G-25 UV_{254}*	2.5 x 7.5	100
CK585-20	Sil G-25 UV_{254}*	5 x 10	50
CK585-30	Sil G-25 UV_{254}*	5 x 20	100
CK585-50	Sil G-25 UV_{254}*	10 x 20	50
CK585-60	Sil G-25 UV_{254}*	20 x 20	25
Layer 1000µm			
CK586-25	Sil G-100 UV_{254}*	5 x 20	15

*With manganese activated, zinc silicate fluorescent indicator operating at 254nm.





Ion Exchange Media

Whatman®

	Description	Quantity
CK500-12	DE52 pre-swollen microgranular DEAE-cellulose	500g
CK500-14	DE52 pre-swollen microgranular DEAE-cellulose	2kg
CK500-16	DE52 pre-swollen microgranular DEAE-cellulose	25kg
CK510-12	CM52 pre-swollen microgranular CM-cellulose	500g
CK542-10	P11 dry bi-functional cation exchange cellulose	100g
CK542-12	P11 dry bi-functional cation exchange cellulose	500g

Micropipettes - *see PP420 in the Pipettes section.*

TLC Separating Chambers

- Heavy, moulded glass construction
- Ground flange top and lid for tight seal

Standard Separating Chamber
For TLC plates 20 x 20cm. With broad grooved flange edge and lid.
CK610-10 Standard TLC Chamber

Batch Separating Chamber
As CK610-10 but with vertical moulded grooves to accommodate up to 5 TLC plates 20 x 20cm. With broad grooved flange edge and lid.
CK610-20 Batch TLC Chamber

HPTLC Separating Chamber
For HPTLC and TLC plates 10 x 10cm. With broad grooved flange edge and lid.
CK610-30 HPTLC Chamber

Chromatography Columns

With porosity 0 sinter. Nominal bore 18mm. Socket 24/29, Cone 19/26.

	Effective x overall lengths, mm
QCR32/20	200 x 310
QCR32/30	300 x 415
QCR32/40	400 x 515



CK500 ***CK542***



CK610-10



QCR32:

Autosampler Vials

High quality glass vials for use with autosamplers as indicated. All capacities quoted are based on water at ambient temperature.

Glass vials with standard screw thread neck
Large neck opening vials with 9mm screw neck finish. Borosilicate (type 1) glass, 1.8ml capacity, 12 x 32mm diameter x height. For use with screw closures. Supplied in packs of 1000.

CK725-10 Clear glass
CK725-15 Amber glass
CK725-20 Clear glass with marking spot
CK725-25 Amber glass with marking spot

9mm screw closures for CK725-series vials
Coloured polyethylene, with insert seal materials as indicated. Supplied in packs of 1000 (except CK727-13 which is supplied in a pack of 100).

CK727-03 Blue, with PTFE/synthetic rubber seal
CK727-06 Black, with PTFE/synthetic rubber seal
CK727-09 Blue, with PTFE/silicone rubber seal
CK727-11 Black, with PTFE/silicone rubber seal
CK727-13 Blue, with PTFE/silicone rubber seal and slit

Glass vials with standard crimp neck
Large neck opening vials with 11mm crimp neck finish. Borosilicate (type 1) glass, 1.8ml capacity, 12 x 32mm diameter x height. For use with aluminium crimp closures. Supplied in packs of 1000.

CK730-10 Clear glass
CK730-15 Amber glass
CK730-20 Clear glass with marking spot
CK730-25 Amber glass with marking spot

11mm crimp closures for CK730-series vials
Natural, or colour-anodised, aluminium, with insert seal materials as indicated. Supplied in packs of 1000.

CK732-04 Natural, with PTFE/synthetic rubber seal
CK732-07 Blue, with PTFE/synthetic rubber seal
CK732-10 Natural, with PTFE/silicone rubber seal
CK732-13 Blue, with PTFE/silicone rubber seal

CK732-16 Hand crimper for 11mm closures
CK732-19 Hand decapper for 11mm closures

Glass vials with standard snap/crimp neck
Large neck opening vials with 11mm snap/crimp neck finish. Borosilicate (type 1) glass, 1.8ml capacity, 12 x 32mm diameter x height. For use with aluminium crimp closures or polyethylene snap caps. Supplied in packs of 1000.

CK734-11 Clear glass
CK734-16 Amber glass
CK734-21 Clear glass with marking spot
CK734-26 Amber glass with marking spot

11mm snap-type closures for CK734-series vials
Coloured polyethylene, with insert seal materials as indicated. Supplied in packs of 1000 (except CK736-08 which is supplied in a pack of 100).

CK736-05 Natural, with PTFE/synthetic rubber seal
CK736-08 Blue, with PTFE/silicone rubber seal and slit
CK736-11 Natural, with PTFE/silicone subber seal
CK736-14 Blue, with PTFE/silicone rubber seal

Crimp closures - *see CK732-series*
Other closure/seal material combinations are available - *details on request*

Limited volume inserts for 1.8ml capacity vials
Supplied in packs as indicated.

CK737-12 250µl, 6 x 31mm dia. x ht. With bottom spring. Pack of 100.
CK737-14 250µl, 6 x 31mm dia. x ht. With flat bottom Pack of 500.

Headspace vials
With 20mm crimp neck finish. Clear borosilicate (type 1) glass with capacities and sizes (diameter x height) as indicated. Supplied in a pack of 100.

	Cap. ml	*Size., mm*	*Neck*
CK738-30	6	22 x 38	tapered
CK738-40	10	23 x 46	standard
CK738-50	20	23 x 75	standard

20mm crimp closures for CK738-series vials
Aluminium, with PTFE/silicone rubber insert seals. Supplied in a pack of 100.

CK738-65 20mm, PTFE/silicone seals

Aluminium, scored to provide pressure release. Will open if pressure exceeds 3.0 ±0.5 bar. With insert seal. Supplied in packs of 1000.

CK738-69 20mm pressure release caps

Insert seals only for 20mm vial caps. PTFE/silicone rubber. Supplied in packs of 100.

CK738-72 20mm seals only

CK738-75 Hand crimper for 20mm closures
CK738-77 Hand decapper for 20mm closures



CK725-20 *CK730-20* *CK734-21* *CK734-26* *CK730-10*



CK727-09



CK732-07



CK732-16

Safety Caps NEW!

S·C·A·T europe

For safe closure and venting of supply reservoirs, particularly when handling solvents for HPLC.

- Replaceable air inlet filter stops solvent contamination from dust
- Halts solvent evaporation, reducing cost and contamination of the laboratory atmosphere by fumes
- Precision adapters allow insertion without crimping and fixed position of capillary tubing
- Easy reservoir exchange
- Manufactured in PTFE and HDPE for resistance to aggressive solvents
- Caps can be unscrewed without tubing removal
- Fire-resistant versions available

As described. Supplied singly, with one inlet filter (6-monthly replacement recommended) and capillary tubing connectors for tubing with outside diameters as indicated.

	Cap type	*Connectors for tubing*
Standard		
CK780-04	GL45	1 x 3.2mm o.d.
CK780-08	GL45	1 x 3.2mm o.d. with stopcock
CK780-12	GL45	2 x 3.2mm o.d.
CK780-16	GL45	3 x 3.2mm o.d.
CK780-20	GL45	4 x 3.2mm o.d.
CK780-24	GL45	4 x 3.2mm o.d. with stopcocks
CK780-28	GL45	6 x 3.2mm o.d.
Fire-resistant		
CK784-04	GL45	1 x 3.2mm o.d.
CK784-08	GL45	1 x 3.2mm o.d. with stopcock
CK784-14	GL45	2 x 3.2mm o.d. with stopcocks
CK784-24	GL45	4 x 3.2mm o.d. with stopcocks
CK784-28	GL45	6 x 3.2mm o.d. with stopcocks

Accessory inlet filters

CK785-10	Standard, pack of 1
CK785-20	Standard, pack of 10
CK785-40	Fire-resistant, pack of 1

Accessories continued on next page



CK780-04, CK784-04 is similar



CK780-16 in use on bottle



CK784-08, CK780-08 is similar



CK784-24, CK780-24 is similar



CK780-12



CK780-20, CK780-28 is similar



CK784-14



CK784-28

Safety Waste Caps NEW!

S·C·A·T europe

For safe closure and venting of liquid waste reservoirs.

- Manufactured in PTFE and HDPE for resistance to aggressive solvents, acids and bases
- Easy reservoir exchange
- Caps can be unscrewed without tubing removal
- Precision adapters allow insertion without crimping and fixed positioning of capillary tubing
- Accessory, activated charcoal, exhaust filters absorb up to 99% of volatiles and are available in 3 sizes to accommodate alternative sizes of reservoir

As described. Supplied singly with connectors for one exhaust filter, capillary tubing with outside diameters and tubing ferrule as indicated. Without exhaust filter.

	Cap type	*Connectors for tubing*
CK790-03	GL45	3 x 2.3/3.2mm o.d.
CK790-06	GL45	2 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-07	GL45*	2 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-09	S51	2 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-12	53B	4 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-15	S55	2 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-18	S60/61	3 x 2.3/3.2mm o.d.
CK790-19	S60/61	2 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-22	83B	4 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.
CK790-26	S90	4 x 2.3/3.2mm o.d., 1 x L-ferrule 6.4mm i.d.

*Fire-resistant

Accessory Exhaust Filters

With activated charcoal absorbent.

	Size	*Filling, g*	*For vessels*	*Pack*
CK794-05	S	24	<5L	1
CK794-07	S	24	<5L	4
CK794-12	M	48	<20L	1
CK794-16	M	48	>20L	3
CK794-19	M*	48	>20L	1
CK794-24	L	100	>20L	1

*Fire-resistant

Multicollector Manifolds

Allow multiple waste streams to be routed through one inlet in the waste cap.

- CK796-10 2 x 3.2mm o.d., 1 x 6.4mm i.d. side inlets
- CK796-15 3 x 3.2mm o.d., side inlets
- CK796-20 2 x 6.4mm i.d., side inlets
- CK796-25 3 x 6.4mm i.d., side inlets
- CK796-55 8 x 3.2mm o.d., top inlets

Fittings and Ferrules for Safety and Safety Waste Caps and Manifolds

- CK798-02 Fittings, PP, for 1.6mm, 2.3mm and 3.2mm o.d. capillary tubes, pack of 10
- CK798-04 Fittings with ferrule, PTFE, for 1.6mm o.d. capillary tubing, pack of 10
- CK798-06 Fittings with ferrule, PTFE, for 2.3mm o.d. capillary tubing, pack of 10
- CK798-08 Fittings with ferrule, PTFE, for 3.2mm o.d. capillary tubing, pack of 10
- CK798-10 Fitting with ferrule, PTFE, for 4.76mm ($^3/_{16}$") o.d. capillary tubing, pack of 1
- CK798-22 Plugs, PTFE, for 3.2mm i.d. fittings, pack of 50
- CK798-24 Plugs, PTFE, for 4.76mm ($^3/_{16}$") fittings, pack of 10
- CK798-35 Ferrules, PTFE, for 1.6mm i.d. fittings, pack of 10
- CK798-37 Ferrules, PTFE, for 2.3mm i.d. fittings, pack of 10
- CK798-39 Ferrules, PTFE, for 3.2mm i.d. fittings, pack of 10

Capillary Tubing

PTFE. In lengths of 3 x 3m.

- CK799-10 1.6mm o.d., 1.0mm i.d.
- CK799-20 2.3mm o.d., 1.7mm i.d.
- CK799-30 3.2mm o.d., 1.6mm i.d.
- CK799-65 Inlet filters for HPLC solvents, PFA/PTFE to fit 3.2mm o.d. tubing, pack of 5



CK790-06, CK790-03 and CK790-07 are similar



CK790-09, CK790-15 is similar



CK790-12 in use with CK794



CK790-19 CK790-18 and CK790-26 are similar



CK790-22



CK794-24



CK796-10



CK796-15



CK796-20



CK796-25



CK798-02 to -10



CK798-22 and -24

Adept HPLC Systems

CECIL

High performance modular systems for quality assurance, quality control, pharmaceutical testing and analytical separations.

Major System Modules

Pump module CE4100
Dual piston, pulse-free, fully compensated solvent delivery pump with flowrates from 0.001 to 10ml/min. With keypad pump setting and digital control with display and memory storage of up to 30 methods.

Detectors, CE4200, CE4201
Dual (CE4200) or single (CE4201) wavelength UV-VIS detectors with range 190 to 700nm. CE4200 provides dual wavelength ratio, and scanning at up to 400nm/sec. with full programming using up to 6 wavelengths. Keypad operation and 4-line LCD readout with menu guidance, prompts and data display.

PowerStream System Manager Software CE4900
Windows-based system control, including programmable wavelength scanning and data processing software operated via the users' PC (MS-Windows 98 or later required). PowerStream is easy to use with a fully interactive graphical interface and display providing full method development. A data processing only version is also available (CE4901 - CK857-84).

All systems are supplied with relevant connecting cables, power supply leads, fuses and operating manual.

Flowrate	*ml/minute*	0.001 to 10
Flow reproducibility	*%*	better than 0.1
Max pressure	*MPa (bar)*	40 (400)
Overpressure cut-out	*MPa*	Adjustable between 3 and 40
Low pressure cut-out	*MPa*	Adjustable between 0 and 40
Eluent contact materials		Biocompatible ceramic, ruby and sapphire
Dimensions W x D x H	*mm*	365 x 290 x 140
Weight	*kg*	7.5
Power requirements		115, 230V 50/60Hz single phase

Wavelength range	*nm*	190 to 700
Wavelength accuracy	*nm*	±1
Wavelength precision	*nm*	±0.1
Bandwidth	*nm*	8
Optical band width	*nm*	10
Straylight, at 220nm	*%*	<0.02
Absorbance ranges:		0 .001 to 2 in 11 ranges
Noise	*A*	±0.35 x 10^{-5} peak to peak at 220mm, 2 second constant
Drift	*A*	±3 x 10^{-5} peak hour at constant temperature
Dimensions W x D x H	*mm*	365 x 129 x 140
Weight	*kg*	17
Power requirements		115, 230V 50/60Hz single phase

Isocratic Systems

System 1 Analytical
Comprises CE4100, CE4201 and 8µl x 10mm flowcell, column panel, Rheodyne sample injection valve with 20µl loop, solvent reservoir, pipe organiser for 3 solvents and installation kit.

CK855-10 Adept system 1 - Analytical

System 3 Automatic analytical
As above, but with CE4200 detector, auto-injector, CE4900 software and interface.

CK855-30 Adept system 3 - Automatic analytical

Gradient Systems

System 4 Binary analytical
Comprises 2 x CE4100, CE4200 with 8µl x 10mm flowcell, stainless steel dynamic mixer, CE4900 software and interface, column panel, solvent reservoir and pipe organiser for 3 solvents, and installation kit.

CK855-35 Adept system 4 - Binary analytical

System 6 Automatic/Binary analytical
Generally as above, but with auto-injector with Rheodyne valve and 20µl loop.

CK855-45 Adept system 6 - Automatic/Binary analytical

System 7 Low cost Binary Gradient
Generally as System 4 above, but with CE4201 detector instead of CE4200, and without dynamic mixer or software.

CK855-55 Adept system 7 - Low cost Binary gradient

Accessories and spares

CK857-30 Column oven, heated and chilled, 230V 50Hz
CK857-40 Column oven, heated only, 230V 50Hz
CK857-60 Solvent degasser, 2-channel, 115V, 230V 50/60Hz
CK857-70 Solvent degasser, 4-channel, 115V, 230V 50/60Hz

CK857-75 Dynamic mixer, Binary, stainless steel
CK857-82 PowerStream control/data processing software
CK857-84 PowerStream data processing only software
CK857-90 Flowcell, 4µl, 5mm path length

CK859-04 Flowcell, 8µl, 10mm path length
CK859-12 Column mounting panel and cover with Rheodyne injection valve fitted with 20µl loop
CK859-14 Auto-injector with Rheodyne valve and 20µl loop
SJ383-16 Deuterium lamp for CE4200, CE4201



CK855-10 in use

Flow Heater FH16-D

Grant
IN THE LABORATORY

Compact closed circulator designed for applications where an open tank is unsuitable or inconvenient.

Flow Heater FH16-D

Range ambient to +5 to 80°C (with accessory cooling), stability ±0.004°C (DIN58966). Maximum pump flow 19 litres/minute, pump head 2.2 metres. With digital temperature display. Once set the required temperature cannot be altered accidentally. Overall 340 x 205 x 140mm L x W x H. For 220-240V 50Hz single phase supplies, 900W.

CL100-22 FH16-D

Accessories

Filler/Deaerator BS15

With removable lid and 6mm tubing connections.

CL103-08 BS15

Remote Probes

For use with FH16-D only. With 2 metres of cable.

CL105-17 FF17, fast response, nylon
CL105-19 LL17, robust stainless steel

Flow Monitors

Electrothermal

Flow Monitors

For protecting electrically operated equipment that requires a flow of aqueous liquid for safe use.

If the aqueous flow reduces significantly for a period of approximately 10 seconds a red LED indicator will light and an audible alarm will sound. At the same time the electrical power to the equipment under control will be disconnected.

- Senses 'low-flow'
- Visual and audible alarms and equipment switched off if 'low-flow' for 10 seconds
- For flow rates from 0.5 to 15 litres/minute
- Liquid contacts only PVDF, sapphire, ceramic, Viton
- Sensor fits 8mm bore pipe
- Solid state switching; 10 amps
- Socket for switching an accessory remote audible alarm

Housed in a cast aluminium box which can be free standing, wall mounted or clamped to a 12.7mm diameter support rod. Overall 80 x 120 x 100mm H x W x D. For 220-240V 50/60Hz single phase supplies.

	Model	*Flow rate*
FR300-10	FM110	0.5 to 15 litres/minute



CL100-22 with CL105-19



FR300 in use

Recirculating Chillers

Grant
IN THE LABORATORY

Stand-alone closed circulators providing powerful, accurately controlled cooling for analytical techniques and instruments where an optimum operating temperature is required. In addition, RC350G, RC400G and RC1400G can be used as heated circulators.

- Precise temperature control
- Low coolant consumption*
- Settable high and low alarm levels with lamp and buzzer
- Over/under temperature cut-outs
- Flow fail device cuts power if no liquid in system
- Digital temperature display

*Use: Water for range +5 to +60°C
Water/glycol mixture for –10 to +5°C

Recirculating Chillers
As specified. Mounted on lockable wheels. For 220-240V 50Hz single phase supplies

CL110-05 Model RC350G
CL110-15 Model RC400G
CL110-25 Model RC1400G
CL110-30 Model RC3000G

Catalogue No		***CL110-05***	***CL110-15***	***CL110-25***	***CL110-30***
Model		RC350G	RC400G	RC1400G	RC3000G†
Temperature range	°C	–5 to +60	–10 to +60	–10 to +60	–10 to +60
Typical cooling power at 20°C	W	350	400	1300	3000
Heater power	kW	0.75	0.75	1.50	—†
Stability at 20°C (DIN58966) (using water)	±°C	0.25*	0.25	0.25	0.5**
Maximum liquid flowrate	litres/minute	15	12	15	15
Pump head pressure at 1 litre/minute	bar	1.60	0.62	0.62	1.60
Dimensions D	mm	600	600	630	840
W	mm	370	370	380	490
H	mm	510	510	590	640
Weight	kg	42	42	53	88
Inlet/outlet connections	mm	9.5 diameter — all models			
Reservoir capacity	litres	1.7	1.7	2.5	1.1
Operational ambient temperature range	°C	+5 to +35 — all models			
EMC emissions	class	B	B	A	B
Supply requirements		220-240V 50Hz single phase supplies — all models			

†Note: The RC3000G has no heater and therefore is designed for cooling applications only. It can control to +60°C where the temperature of the exothermic reaction or process is above +60°C; this is achieved by switching the cooling on and off.

*With 10 litres of water in the system. **With 25 litres of water in the system.

Accessories

Bypass RC BYP
Ensures that the flow through the chiller is always at least 1 litre/minute so that the chillers' flow-fail device does not engage. This maintains temperature control and system integrity if narrow tubing or small cooling cells are used in an external circuit.

CL110-85 RC BYP

Pressure gauge RC PR
Indicates output pressure from the chiller.

CL110-89 RC PR
CL110-93 PRES Priming reservoir



CL110-05, CL110-15 to CL110-30 are similar

Refrigeration Units

Grant
IN THE LABORATORY

Benchtop refrigeration units only, for use with Grant Optima T-series controllers, together providing a source of temperature controlled, refrigerated liquid for cooling applications, or as low temperature baths.

- Choice of model ranges:-
  - — Minimum operating temperatures: -20°C, -30°C, -47°C
  - — Tank volumes: 5 litres, 12 litres, 20 litres
- Rapid cool down
- All units supplied with bridge plate for Optima T-series controller, removable tank lid, and removable front grille for easy compressor cleaning
- Liquid drain valve supplied (except Model R1)
- Low temperature thermostat protects against freezing when used with water
- R4 and R5 models include high pressure refrigeration switch
- Refrigeration on all models (except R1), can be switched on and off by programmed TX150 and TXF200 thermostats, or by ancillary equipment
- Overtemperature cut-out at 100°C
- Models R1 to R3 have a rear-mounted power supply output for use by Optima controllers

Catalogue No.			***CL120-30***	***CL120-40***	***CL120-60***	***CL120-65***	***CL120-75***
Model			R1	R2	R3	R4	R5
*Range**		°C	-20 to +100	-20 to +100	-30 to +100	-30 to +100	-47 to +100
*Cooling power**	*at +20°C*	*W*	250	250	160	900	1100
	at 0°C	*W*	140	140	156	500	1050
	at -20°C	*W*	35	35	50	180	580
	at -30°C	*W*	—	—	5	40	390
	at -47°C	*W*	—	—	—	—	25
Refrigerant			R134a	R134a	R134a	R134a	R404a
Tank	*Capacity*	*litres*	5	5	5	20	12
	Top opening	*mm*	110 x 145	110 x 145	110 x 145	230 x 205	260 x 115
Liquid depth, min./max.		*mm*	80/140	80/140	80/140	80/140	120/180
Power rating†, (50Hz)		*W*	334	334	354	684	1305
Overall L x W x H		*mm*	410 x 230 x 410	410 x 230 x 410	410 x 230 x 410	490 x 390 x 530	575 x 415 x 585
Weight		*kg*	19.2	19.2	19.2	37.8	47

*At an ambient of +20°C. †Refrigeration unit only, thermostatic controller requirement additional.



CL120-40 in use with controller

Refrigeration units, R series

As described. With stainless steel internal tank with flat lid and bridge plate for mounting an accessory Optima T-series thermostatic controller. Without controller. For 220-240V 50Hz single phase supplies.

CL120-30 R1
CL120-40 R2
CL120-60 R3
CL120-65 R4
CL120-75 R5

Accessory pumps

Vertical turbine pumps which provide higher circuit pressure with low heat output to the circulating fluid. Mount directly into the bath tank using an adapted lid, and supplied with inlet/outlet ferrules for 12.5mm i.d. tubing. For 220-240V 50Hz single phase supplies.

CL120-94 VTP1, 1000mbar
CL120-96 VTP2, 1650mbar

Thermostatic controllers, Optima series

For 230V 50/60Hz single phase supplies.

	Model	*Range*, °C*	*Control*	*Pump*
BJ180-18	T100†	0 to +100	Digital	x
BJ180-28	TC120†	-20 to +120*	Digital	✓
BJ180-37	TX150	-30 to +150*	Programmable	✓
BJ180-49	TXF200	-47 to +200*	Programmable	✓

†T100 and TC120 are not suitable for use with the R3 unit CL120-60.

*If used with R-series units controllers can only be operated up to +100°C.

Accessory racks

If used as conventional low temperature baths the refrigeration unit tanks will accept the following test tube racks:

R1, R2, R3: 1 x QR series racks – *see BJ188-10 to BJ188-23.*

R4, R5: 1 x VR series racks – *see BJ188-30 to BJ188-43.*

Recirculating Coolers

Julabo

Integrated, closed circuit coolers providing rapid, powerful, continuous chilling in a compact, ergonomically designed housing.

- Fits on or under the bench with recessed grips for easy handling
- Low liquid level alarm with audible signal and potential free remote alarm outputs
- Microprocessor control and system monitoring ensure peak performance
- Digital temperature display with 0.1°C resolution
- Integral coolant freezing and dry-running protection
- RS232 communication interface (except F250)
- Pump motor and compressor overload protection
- Coolant sight gauge (FL1203 also has a flow pressure gauge)
- Removable venting grid to allow convenient condenser grille cleaning

Catalogue No.		***CL125-06***	***CL125-09***	***CL125-13***
Model No.		F250	FL601	FL1203
Temperature range	*°C*	+5 to +40	-20 to +40	-20 to +40
Temperature stability	*±°C*	0.5	0.5	0.5
Cooling capacity at 20°C	*W*	250	600	1200
(using water) 15°C	*W*	240	—	
10°C	*W*	220	500	900
5°C	*W*	210	—	—
0°C	*W*	—	400	800
-10°C	*W*	—	330	500
Pressure pump capacity	*bar*	Fixed, 0.35	Fixed, 1.0	Adjustable, 0.5 to 3.0
Max. liquid flow rate (12mm i.d. tubing)	*litres/min.*	15	23	40
Inlet/outlet connections		M16 x 1 with ferrule adapters for 8mm and 12mm i.d. tubing — all models		
Filling volume	*litres*	1.7 to 2.6	5.5 to 8	12 to 17
Overall W x D x H	*mm*	240 x 400 x 520	320 x 500 x 600	500 x 760 x 640
Weight	*kg*	27	45	69

Recirculating Coolers

As described. Supplied with ferrule adapters for 8mm and 12mm i.d. inlet/outlet tubing. For 230V 50Hz single phase supplies. CL125-06 is additionally designed for economic cooling of instruments down to -15°C and is not supplied with RS232 interface.

CL125-06 F250
CL125-09 FL601
CL125-13 FL1203

Accessories

Inlet/Outlet tubing

Textile-reinforced rubber, with i.d. as indicated. Supplied in lengths of 2 metres.

CL127-05 8mm i.d.
CL127-08 12mm i.d.

Tubing insulation

For use with inlet/outlet tubing when cooler is operating between -20 and +10°C. For tubing with i.d. as indicated. Supplied in lengths of 2 metres.

CL127-34 For tubing 8mm i.d.
CL127-39 For tubing 12mm i.d.

Coolant liquid

Supplied in pack of 5 litres.

BJ485-09 Coolant liquid, Thermal H5*, -50 to 105°C

*Note: H5 liquid must not be used with silicon tubing.



CL125

Julabo Refrigerated Circulators F-, FP-series

- Wide range of working temperatures from -50 to 200°C
- Adjustable overtemperature cut-out
- Four controller levels:
  - EC — Simple keypad PID control with 0.1°C resolution and temperature stability to ±0.03°C
  - MB— Digital control and readout, memory storage of up to three setpoints, upper and lower warning levels with audible alarm and temperature stability to ±0.02°C
  - MA— Similar to MB controller, but with pump pressure control and temperature stability to ±0.01°C
  - HL — Fully functional programmer with 0.01°C resolution, vacuum fluorescent multiple display, secondary LED display with user prompts/menu, parameter and alarms storage of up to 6 temperature programmes each of 60 steps, pump pressure control. Pt100 sensor input for external temperature control and monitoring, analogue inputs and outputs and RS485 interface
- FP -models have proportional cooling capacity control which self-adjusts the cooling to the most energy-efficient level without compromising performance

Catalogue No.			***CL130-08***	***CL130-18***	***CL130-38***	***CL130-48***	***CL130-58***	***CL130-68***	***CL130-79***
Model			F12-ED	F12-MA	F25-HL	F32-MA	FP-40HL	FP-50HL	FP-89HL
Range		°C	-20 to 100	-20 to 200	-28 to 200	-35 to 200	-40 to 200	-50 to 200	-90 to 100
Stability		±°C	0.03	0.02	0.01	0.02	0.01	0.01	0.02
Controller			Digital	Digital	Programmer	Digital	Programmer	Programmer	Programmer
Capacity		*litres*	4.5	4.5	4.5	8	16	8	8
Opening,	*W x L* *depth*	*mm* *mm*	130 x 150 130	130 x 150 130	120 x 140 140	180 x 120 150	230 x 140 200	180 x 120 150	130 x 150 160
Pump capacity, pressure, *pressure/suction,*	*litres/minute* *mbar*		15 350/—	11 to 16 450/—	22 to 26 700/400	11 to 16 450	20 1100/220†	15 1100/220†	22 to 26 700/400
Data interface			—	RS232	RS232	RS232	RS232/485	RS232/485	RS232/485
*Extraction rate at 0°C**	*W*	100	100	200	390	500	800	750*	
Overall	*W* *D* *H*	*mm* *mm* *mm*	200 360 560	200 360 560	230 420 640	310 420 640	370 420 710	420 490 720	550 600 920
Weight net		*kg*	22	23	32	37	49	57	135

†Electronically adjustable pump which adapts to the viscosity characteristics of the bath fluid. *At -40°C.

Refrigerated Circulators F-, FP-series, Julabo
As described. Supplied with M16 inlet/outlet adapters and tubing ferrules. For 230V 50Hz single phase supplies.

CL130-08 F12-ED
CL130-18 F12-MA
CL130-38 F25-HL

CL130-48 F32-MA
CL130-58 FP40-HL
CL130-68 FP50-HL
CL130-79 FP89-HL



CL130-68

Accessories

Inlet/Outlet Tubing, Viton
Working temperature range -50 to +200°C. With i.d. to fit tubing ferrules as indicated. Supplied in lengths of 1 metre.

CL133-08 8mm i.d.
CL133-12 12mm i.d.

Tubing insulation
Working temperature range -50 to +100°C. For use on inlet/outlet tubing with i.d. as indicated. Supplied in lengths of 2 metres.

CL127-34 For 8mm i.d. tubing
CL127-39 For 12mm i.d. tubing

Inlet /Outlet Tubing, flexible metal
Triple insulated. Working temperature range -100 to +350°C. With M16 adapters to fit circulator inlet/outlets directly. In lengths as indicated.

CL133-34 0.5 metre
CL133-36 1.0 metre
CL133-38 1.5 metres

Bath liquids
For use at the temperature ranges indicated. Supplied in packs of 5 litres.

BJ485-05 Thermal HY*, -80 to +55°C
BJ485-09 Thermal H5*, -50 to +105°C
BJ485-11 Thermal G*, -30 to +80°C
BJ485-13 Thermal H20S*, +0 to +220°C
BJ485-16 Thermal H10, -10 to +180°C

*Note: HY, H5, G and H20S liquids must not be used with silicone tubing.

Pt100 external sensors for HL- models only
Supplied with connection cable and plug. 200mm long x 6mm deep.

BJ485-40 Stainless steel
BJ485-42 Glass coated

Control Software Easytemp
For remote control of any single Julabo instrument with built-in RS232 interface via the users PC running Windows™ 95/98/NT operating systems. Allows control and reviewing of all functions plus memory programming and recording.

Note: This software is a free-of-charge accessory and can also be downloaded from the Julabo website, www.julabo.de.

BJ435-75 Easytemp software

Refrigerated Circulator Baths

TECHNE

Catalogue No.		***CL160-04***	***CL160-07***
Model		RB5A/TE10A	RB5A/TE10D
Range	°C	–20 to +95	–20 to +100
Stability	±°C	0.01	0.01
Thermoregulator		TE10A analogue	TE10D digital
Tank capacity	*litres*	7	7
Pump capacity (zero head)	*litres/minute*	10	10
	mBar	145	145
Extraction rate at 0°C	*W*	145	145
Power rating	*kW*	1	1
Overall L x W x H	*mm*	430 x 235 x 566	430 x 235 x 566
Weight, net	*kg*	31	31

Refrigerated Circulator Baths, RB series
As specified. With integral thermoregulator which includes an over-temperature cut-out. For 230V 50/60Hz single phase supplies.

CL160-04 RB5A/TE10A analogue
CL160-07 RB5A/TE10D digital



CL160-07

Decon Cleaning Materials

Cleaner, Decon 90
A phosphate-free, biodegradable, water rinsable surfactant formulated specifically for laboratory and medical cleaning applications. A 2% aqueous solution has a pH of 10.7.

Recommended for use in ultrasonic cleaners and for cleaning glass, ceramics, plastics, glass fibre, rubber, stainless steel and ferrous metals and is used widely as a radioactive decontaminant. Being alkaline an aqueous solution will etch certain metals such as aluminium and zinc. In plastic container.

CL550-10 1 litre
CL550-15 5 litres
CL550-20 20 litres

Cleaner, Dri-Decon powder
A non-foaming, totally rinsable, powder surfactant formulated specifically for use in automatic glassware washing machines. It is alkaline and is therefore unsuitable for cleaning non-ferrous metals such as aluminium, zinc and silver. In plastic container.

CL565-15 5kg

Cleaner, Decomatic
A phosphate free, liquid surfactant which is free rinsing and foam-free, specially formulated for use in laboratory glassware washing machines. It is alkaline and is therefore unsuitable for cleaning non-ferrous metals such as aluminium, zinc and silver. In plastic container.

CL575-15 5 litres
CL575-20 10 litres

Cleaner, Neutracon
A phosphate free, biodegradable, totally rinsable surfactant producing a near neutral solution in water. Is non-corrosive and has no adverse effect on aluminium, copper, brass, silver and silica glass. In plastic container.

CL590-10 1 litre
CL590-15 5 litres

Cleaner, Decon 75
A low foaming, non-corrosive and biodegradable phosphate surfactant with a pH of 10 in 2% aqueous solution. It is alkaline and is therefore unsuitable for cleaning non-ferrous metals such as aluminium, zinc and silver. In plastic container.

CL610-10 1 litre
CL610-15 5 litres
CL610-20 20 litres

Acid Rinse, Decon
A non-foaming, free rinsing, biodegradable formulation for use in automatic washing machines either as a pre-wash where soiling is acid soluble, or final rinse where it neutralises the alkaline carry-over traces of the main wash, and inhibits deposition of salts from hard water supplies. It is acidic and therefore unsuitable for use on non-ferrous metals, notably aluminium and zinc. In plastic container.

CL615-08 5 litres

HEALTH AND SAFETY
All cleaning materials are likely to irritate the eyes and skin. Avoid contact with the eyes and skin and wear rubber gloves and goggles when handling.

Mucasol®

Cleaner, Mucasol®
A mildly alkaline, biodegradable concentrate with low phosphate content and which is free of chlorine and caustic alkali. Will remove rapidly stubborn residues such as oils, fats, waxes, stopcock greases, silicones, blood and proteins. It has a bacteriostatic action and can be used to decontaminate bench surfaces, shelves, tiles and floors. Can be used to clean glass, porcelain, plastics, rubber and most metals and has no corrosive effect. For normal cleaning a concentration of 0.7% aqueous solution (pH 11.5) is usually sufficient. In plastic container.

CL635-12 2 litres
CL635-16 5 litres

Teepol

Cleaner, Teepol
A concentrated neutral biodegradable liquid detergent for general cleaning applications. In 5 litre container.

CL640-15 5 litres

Lipsol NEW!

Cleaner, Lipsol
A totally rinsable, phosphate- and enzyme-free, biodegradable surfactant with excellent cleaning performance on laboratory glassware, plasticware, rubber, ceramics and stainless steel. Mildly alkaline and therefore unsuitable for cleaning non-ferrous metals such as aluminium, zinc, or with polycarbonate plastics. Supplied in 5 litre plastic container.

CL645-17 5 litres

Cleaning brushes – *see Brushes section.*

Glassware washing machine – *see Washing section.*

Glassware draining and drying – *see Drying and Ovens sections.*

Ultrasonic cleaning baths – *see Ultrasonics section.*







CL640-15



CL645-17

Tissues, Wipes, Towels and Cloths

All dimensions and quantities are nominal.

Tissues (Medical Wipes) Kimcare
Soft absorbent 2-ply white tissues 220 x 120mm for those delicate wiping needs. Specially packed for the health care environment in dispensing cartons containing 76 tissues.

CL700-15 Wipes, medical, 3020

Tissues, Kleenex
Soft, 2-ply strong white tissues 200 x 210mm. In dispenser carton containing 100 wipes.

CL700-19 Tissues, 8835

Tissues, Kimtech
Strong 2-ply white wipes 200 x 210mm with low lint level. In dispensing carton containing 100 wipes.

CL710-15 Tissues, 7102

Tissues, Kimwipes Lite Professional
2-ply white wipes 200 x 210mm. In dispensing carton containing 200 wipes.

CL710-17 Tissues, 7216

Wipes, Kimtech Science, Precision
Single-ply, for wiping delicate surfaces, White, in sizes and packs as indicated.

	Ref.	Wipe, mm	Pack qty.
CL712-10	7551	300 x 300mm	196
CL712-25	7552	114 x 213mm	280

Wipes, Scott Wypall, blue
Tough, single-ply, blue wipes with high wet strength and absorbency. In roll containing 115 wipes. Dimensions given are width x length of each wipe.

CL720-12 Wipes, 240 x 470mm, 7285
CL720-20 Wipes, 510 x 375mm, 7287

Wipes, Kimberly Clark Scott
Highly absorbent, single-ply, "Airflex" fabric material, white wipes. 240 x 460mm with excellent wet-strength. In roll containing 115 wipes.

CL720-30 Wipes, 7286

Dispensers
White plastic, wall mounting for CL720 series.

CL722-15 For 240/250mm roll
CL722-20 For 500/510mm roll

Wipes, Wypall
2-ply barrel roll, in sizes and packs as indicated.

	Ref.	Wipe, mm	Colour	Pack qty.
CL725-11	7303	206 x 380	White	300
CL725-24	7304	240 x 380	Blue	100
CL725-28	7305	510 x 380	Blue	100
CL725-60	Dispenser, plastic, wall mounting			

Wipes, low lint
Coated polyester/rayon wipes with high absorbency, very good wet strength, low lint and are resistant to most common solvents. Dimensions 355 x 305mm. Supplied in pack of 275.

CL728-10 Wipes, low lint

Towels, Kleenex
Soft absorbent 1-ply white towel. Supplied in a perforated roll containing 115 towels each 250 x 460mm width x length.

CL730-17 Towel roll, 6681

Kleenex, Kimcare, Kimtech, Scott, Wypall and Kimwipes are Registered Trademarks of the Kimberly-Clark Worldwide. Inc.


CL700-15


CL710-17


CL700-19



CL712


CL710-15


CL720-30


CL725-11, CL725-60


CL728


CL725-24/-28


CL730 with CL722-15
CL720 are similar

Tissues, Wipes, Towels and Cloths continued

All dimensions and quantities are nominal.

Towels, Kleenex, folded
Highly absorbent, 3-ply "airflex" fabric which has excellent wet strength and softness. Towel size 220 x 320mm. Supplied in self-presenting packs of 88 towels.

CL730-26 Folded towels, 6761
CL732-10 Dispenser, plastic, wall mounting

Wipes, cleanroom, Kimtech
Precision wipes. Suitable for use in ISO cleanroom Class 7 environments and above. Strong, low-linting, absorbent and chemically inert. Resistant to solvents and most chemicals. Supplied in wipe sizes and packs as indicated.

	Ref.	Wipe, mm	Pack
CL734-15	7623	340 x 380mm	roll 600
CL734-25	7624	350 x 385mm	35

Duster, yellow
Soft with close texture. Dimensions 500 x 350mm. Supplied in pack of 10.

CL742-10 Dusters

Polishing Cloths, Selvyt®
The original soft texture polishing cloth which can be washed repeatedly. Supplied in packs of 10.

CL744-11 250 x 250mm
CL744-14 350 x 350mm

Wiping Cloths, J-type
Bonded cellulose fibre. Can be used for wet or dry cleaning. Dimensions 330 x 500mm. Supplied in pack of 50.

CL745-40 Wiping cloths

Glass Cloth, Linen
For drying of glassware and general equipment. Dimensions 750 x 500mm. Supplied in pack of 10.

CL745-60 Glass cloths

Wipes, bactericidal, Sani-Cloth 70
For disinfection of surfaces in clinical environments. Perforated roll of non-woven material saturated with 70% v/v Isopropyl alcohol B.P. Wipe dimensions 200 x 220mm. Supplied in a dispenser tub of 200.

CL745-65 Wipes, bactericidal

Lens Tissues

Tissues, Whatman 105
For lens cleaning.

	Dimensions, mm	*Pack qty.*
CL760-10	100 x 150	625
CL760-15	200 x 300	100
CL760-20	460 x 570	500


CL730-26 with CL732-10



CL734-25



CL745-65



CL734-15





CL760

Disinfectants

Microbicidal Surface Disinfectant, Terralin® Protect

High-performance, broad spectrum disinfectant and cleaner, effective against bacteria (including Tb bacilli), fungi, MRSA, Hepatitis B viruses, rota viruses, HIV and adeno viruses. For use on large surfaces, fittings and equipment that can be wet-wiped.

- Non-toxic, low-odour formulation
- Economical — low concentration required for effective use (0.25% to 2% in water depending on application/exposure required)
- Good cleaning and soil-loosening properties

As described. Supplied in pack as indicated.

CL850-10 Terralin® Protect, 2 litres

Microbicidal Equipment Disinfectant, Mikrozid® AF

Alcohol-based, rapid cleaner and disinfectant for medical devices and equipment in clinical areas. Effective against Bacteria (including Tb bacilli), fungi, hepatitis B viruses, HIV, HCV, adeno viruses, MRSA and Polio.

- Easy-to-use
- Aldehyde-free
- Leaves no residue

A single application and thorough wiping with a disposable tissue will ensure effective cleaning. Secondary application and leaving the surface to dry will provide disinfection.

Note: Mikrozid should not be applied to alcohol-sensitive surfaces such as Perspex (acrylic). Supplied in pack as indicated.

CL860-15 Mikrozid AF, 1 litre
CL862-04 Spray nozzle, for use with CL860-15



CL850



CL860-15 with CL862-04

Virucidal Disinfectant

Virkon

Wide spectrum disinfectant effective against all 18 virus families affecting man and animals, including HIV and Hepatitis B. Supplied in powder form.

- Bactericide and fungicide
- Odourless, non-irritant to skin and eyes
- No maximum exposure limit required under COSHH
- Dissolves easily
- Non-corrosive, non-bleaching, bio-degradable
- Supplied in packs as indicated

Any viral disease which is transmitted via surfaces or instruments contaminated with infected blood, body fluids, faeces or saliva can be controlled by the correct application of Virkon. Virkon may be applied directly onto blood or body fluid spillages. Diluted to 1% in water, Virkon can be used to clean and disinfect equipment and surfaces. Supplied in packs as indicated.

CL900-01	20 x tubs of 10 x 5g tablets
CL900-02	12 x tubs of 50 x 5g tablets
CL900-05	50 x 50g sachets
CL900-10	6 x 500g squeeze 'puff' packs
CL900-15	1 x 5kg drum

Anti-Microbial Hand Soap

LabGUARD

A concentrated, coconut-based hand soap, formulated for repeated use without drying the skin.

- Contains 2% Nonoxynol 9 which is effective in inactivating the AIDS virus (HIV1) and Hepatitis Types 1 and 2
- Contains 0.5% p-Chloro-m-xylenol (PCMX) an anti-bacterial and anti-fungal agent that is effective in destroying a broad spectrum of organisms
- Contains a blend of natural moisturisers and conditioners which act gently but effectively on the skin, to combat the effects of water, harsh solutions and other irritants found in the laboratory. Can be used as a shower soap

Supplied in packs as indicated.

CL910-08	12 x 125ml pivot nozzle dispensers
CL910-13	6 x 1 litre pump-top dispensers
CL910-18	2 x 5 litre easy-pour containers

Barrier Hand Cream

ProCARE

An extra strength non greasy hand cream specially formulated to provide maximum protection from hazardous work environments in the laboratory which cause dry cracked hands and skin irritation.

- Contains Nonoxynol-9 which is effective in inactivating the AIDS virus (HIV1) and Hepatitis Types 1 and 2
- Contains lanolin to moisturise the skin and a silicone to seal in the moisture and seal out the environment
- Particularly effective at relieving the irritation caused by frequent wearing of rubber gloves
- Economical in use, only a small amount of cream is required at each application

Supplied in packs as indicated.

CL910-70	12 x 85g tubes
CL910-75	4 x 450g pump-top dispensers







Clinical Sundries

Lancets, disposable
Stainless steel. Individually wrapped and autoclaved. Supplied in pack of 200.
CM115-10 Lancets

Haemacytometer Sets, BS748
For blood cell counting. With counting chamber, cover glasses and one each red and white cell pipettes with mouthpieces in fitted case. The metallized versions reduce glare and provide greater contact for easier and more accurate counting.

Improved Neubauer ruling
Cell depth 0.1mm.
CM175-10 Single
CM175-12 Single metallized
CM175-20 Double
CM175-22 Double metallized

Modified Fuchs-Rosenthal ruling
Cell depth 0.2mm.
CM180-20 Double metallized

Thoma ruling
Cell depth 0.1mm.
CM183-19 Double metallized

Cover glass
Spare for single or double chamber haemacytometer sets. 22 x 25mm L x W. Supplied in pack of 10.
CM185-08 Cover glasses

Counting chambers
Spare for haemacytometer sets. Supplied with cover glasses.

Improved Neubauer, 0.1mm.
CM187-05 Single
CM187-07 Single metallized
CM187-12 Double
CM187-14 Double metallized

Modified Fuchs-Rosenthal, 0.2mm
CM187-22 Double metallized

Thoma, 0.1mm
CM187-30 Double metallized

Pipettes, Haemacytometer
For blood diluting. Red cell type enables 1 in 100 dilution, white cell type 1 in 10 dilution. White enamel back glass. Amber markings. Length 225mm complete with rubber tubing and glass mouthpiece.
CM190-10 Red cell
CM190-12 White cell

Bacteria counting chamber, Helber
0.02mm deep circular cell, Thoma ruling. Slide thickness 1mm. With 2 cover glasses.
CM195-10 Helber chamber

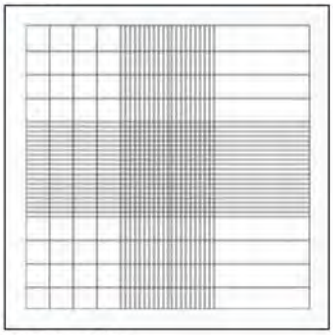
Dilu-Vial®, Elkay
Polystyrene. For cell and particle counting. Capacity 32ml. Designed to eliminate hemolysis in cell counting. Is deionized and de-staticized following manufacture so that it is particle free and chemically clean prior to use. With optically clear, parallel sides for optimum light transmission and graduations at 10ml and 20ml to ensure correct sample dilution. A frosted write-on area provides convenient sample identification. The cap is polyethylene. Supplied in pack of 1000.
CM200-15 Dilu-Vial

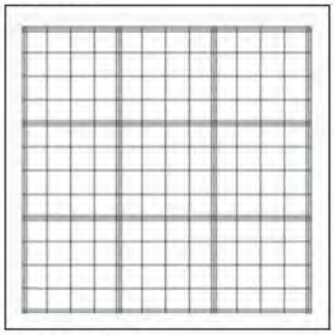
Clinical, pathological and serological pipettes – *see Pipettes Section.*

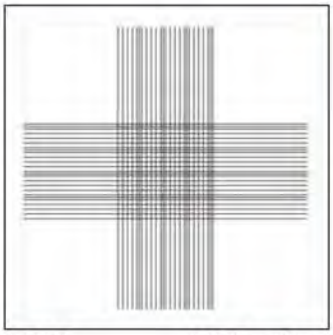

CM115


CM175, CM180


CM190


CM175 ruling


CM180 ruling


CM183

CM195 ruling


CM200

Clinical Sundries continued

Sphygmomanometer
Measuring to 300mm Hg with velcro fixing cuff.
CM360-10 Aneroid in zip case

Stethoscopes, clinical
CM365-10 Single head
CM365-15 Dual head

Tongue Depressors, wood
145 x 20mm. With rounded ends. Pack of 100.
CM380-10 Depressors

Vaccine/specimen Carrier
Meets WHO/UNICEF standard E4/VC2. Polyurethane insulated, polypropylene body with strong, hinged handle and removable lid. Both body and lid have individual seals to improve insulation. Dimensions: 240 x 180 x 220mm internal, 320 x 270 x 250mm external. Supplied with 8 x 400ml ice packs, soft foam insert to hold vaccine vials and multilingual instructions on safe transportation of vaccines. Vaccine capacity 2.6 litres. Weight 2.2kg. Accessory insert divider strips with adjustable slots in 12mm increments allow specimen tubes/containers to be accommodated.
CM390-20 Vaccine/specimen carrier
CM390-22 Accessory insert divider strip (3 required)

Tube Rotators

stuart

Tube Rotator, fixed speed, SB2
Fixed speed 20rpm. With on/off switch and adjustable tilt angle with setting gauge. Overall 200 x 270 x 230mm W x D x H. Weight 3.2kg. For 230V 50Hz single phase supplies. Requires, but is not supplied with, tube carrier for operation.
CM470-20 SB2, fixed speed

Tube Rotator, variable speed, SB3
Variable speed 2 to 40rpm. Generally as CM470-20 but with digital speed control to 1rpm resolution and display, 1 to 999 minute timer with audible alarm at the end of the timed period. Overall 200 x 270 x 230mm W x D x H. Weight 3.2kg. For 230V 50Hz single phase supplies. Requires, but is not supplied with, tube carrier for operation.
CM470-35 SB3, variable speed

Accessory tube carriers for CM470 rotators

Tube holders
With radial sprung clips which secure tubes firmly but allow rapid loading and unloading. Hold maximum tubes as indicated.
CM473-03 40 x 1.5ml micro-centrifuge tubes
CM473-06 20 x 9 to 20mm diameter tubes
CM473-09 12 x 50ml centrifuge tubes

Tube racks
Axially perforated circular racks for gentler mixing of culture tubes. Hold maximum tube number x diameter as indicated.
CM473-12 63 x 12mm tubes
CM473-15 63 x 16mm tubes
CM473-19 30 x 26mm tubes

Adapter SB3/Dual
Allows a second tube holder or rack to be mounted, increasing capacity or allowing alternative tube sizes to be accommodated.
CM473-40 Adapter SB3/Dual


CM360-10


CM365-10


CM380


CM390-20


CM470-20 in use with CM473-06


CM470-35 with 2 x CM473-03 and CM473-40

Applicators and Swabs

Applicators, wood
Approximately 150 x 2mm length x diameter. Supplied in pack of 1000.
CM600-10 Applicators

Applicator Swabs
Cotton wool tipped, packed as indicated.

	Tip	*Shaft*	*Sterile*	*Inner pack*	*Pack qty.*
CM610-11	Plain	Wood	No	100/bag	5000
CM610-12	Plain	Wood	Yes	100/bag	5000
CM610-16	Plain	Wood	Yes	1/pouch	1000

Culture Swabs
Cotton wool tipped. Individually packed with storage tube.

	Tip	*Shaft*	*Sterile*	*Inner pack*	*Pack qty.*
CM615-40	Plain	Wood	Yes	1/tube	500
CM615-44	Charcoal	Wood	Yes	1/tube	500
CM615-48	Plain	Aluminium	Yes	1/tube	100
CM615-52	Viscose	Aluminium	Yes	1/tube	100

Probact™ Transport Swabs
Complete sampling kits for the collection, preservation and transport of microbiological specimens. Comply with European Medical Device Directive 93/42/EEC and CLSI M40-A compliant. Comprising cotton wool or viscose (rayon) tipped swab and separate tube of transport medium.

	Medium	*Tip*	*Shaft*	*Pack qty.*
CM620-10	Amies clear	Cotton	Aluminium	100
CM620-15	Amies clear	Viscose	Plastic	100
CM620-20	Amies clear	Cotton	Wire	100
CM620-30	Amies charcoal	Cotton	Aluminium	100
CM620-35	Amies charcoal	Viscose	Plastic	100
CM620-40	Amies charcoal	Cotton	Wire	100

Note: Amies Swabs have a limited shelf life. Expiry date shown on product.



CM600



CM610



CM615-40



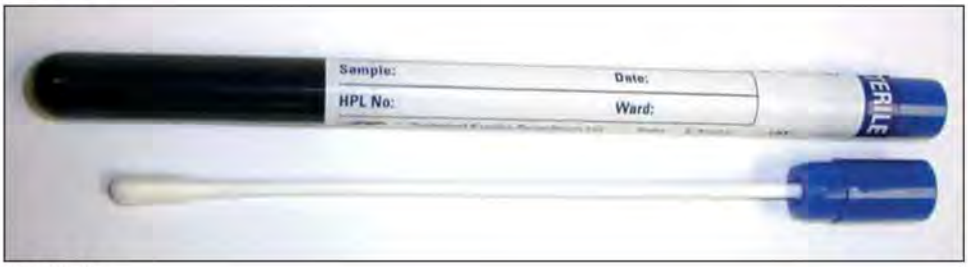
CM615-48



CM620-10



CM620-20



CM620-35

Applicators and Swabs continued

Sterilin now sold as Thermo SCIENTIFIC

Culture Swabs, Sterilin
Cotton wool tipped. With shaft as indicated.

	Ref.	Type	Shaft	Cap colour	Pack qty.
Individual wrap. Sterile					
CM625-08	165KS01	Plain	Wooden	—	1000
Bulk pack (100's). Sterile					
CM625-09	165KS100	Plain	Wooden	—	2500
Individual tube. Sterile. Colour coded cap.					
CM625-17	F150CA	Plain	Wooden	Red	100
CM625-19	F155CA*	Plain	Plastic	White	100
CM625-24	F160CA*	Plain	Wire	Orange	100
CM625-33	451CST	Vegetable protein	Plastic	Yellow	100
CM625-42	F152CA	Charcoal	Wooden	Black	100

* Rayon tip.

Transport Swabs, Sterilin
Individual tubes. Gamma irradiated. With rayon tip and shaft as indicated. CE-marked as class IIa medical devices.

	Ref.	Type	Shaft	Cap colour	Pack qty.
CM650-07	18116CST*	Amies charcoal	Aluminium	Orange	500
CM650-11	18108CST*	Amies clear	Plastic	Blue	500
CM650-14	18114CST*	Amies charcoal	Plastic	Black	500
CM650-16	408CST†	Amies clear	Plastic	Red	500
CM650-19	414CST†	Amies charcoal	Plastic	Black	500

*Packed under a nitrogen atmosphere in sealed aluminium foil sleeves of 50 to enhance shelf life.
†Comply with NCCLS M40-A and DIN 58942-4 standards.



CM650-16

Swab Rinse Kits

Sterilin now sold as Thermo SCIENTIFIC

For routine microbiological monitoring of bacteria and fungi contamination on equipment and surfaces. A valuable aid to hygiene control in critical areas within hospitals, pharmaceutical research and production, or food manufacturing.

- Choice of kits to suit different sampling protocols
- Suitable for sampling from smooth, rough, flexible, dry or wet surfaces. Dry surfaces are sampled using a swab pre-moistened in the rinse solution provided.

Kits comprise a 16 x 100mm tube with push-fit cap containing 10ml of rinse solution (a general purpose medium for the maintenance of bacteria or fungi and to neutralise disinfectants or sanitising agents) and standard or large size plastic applicator swab with either a rayon or alginate tip. The alginate tip can be dissolved in the rinse solution provided, releasing all of the bacteria taken up by the swab which allows accurate total viable counts to be performed. All kits are sterilised by gamma-irradiation.

	Ref.	Applicator/ Tip	Pack qty
HT840-10	902C	Standard/ Rayon	25
HT840-15	903C	Standard/ Alginate	25
HT840-20	904C	Large/Rayon	25
HT840-30	905C	Large + template/Rayon	10



HT840

Sampling Swabs

Flocked Sampling Swabs, Sterilin

Innovative sample collection swabs incorporating unique nylon-flocked tip which enhances sample recovery and release. Particularly useful for small samples associated with forensic investigation. Certified DNase- and RNase-free (forensic swabs additionally certified free from Human DNA). Manufactured using inert components and available in individual paper peel pouch or empty dry tubes, gamma sterilised in outer cases as indicated.

	Ref.	*Applicator type*	*Pack qty.*
Paper peel pouch			
CM630-05	501CS01	Minitip plastic	100
CM630-10	502CS01	Standard plastic	100
CM630-15	503CS01	Pernasal plastic	100
CM630-20	511CS01	Endocervical plastic	50
CM630-25	516CS01	Neonatal minitip plastic	100
Plain tube			
CM630-40	551C	Minitip plastic	100
CM630-45	552C	Standard plastic	100
CM630-50	553C	Pernasal plastic	100
CM630-55	516C	Neonatal minitip plastic	100
Forensic*, paper peel pouch			
CM630-80	3520CS01	Standard with break point	100
CM630-85	3520CA	Standard with break point + 2ml tube	100

*Certified Human DNA-free.

Flocked Transport Swabs, E-Swab, Sterilin

With flocked tips and Amies liquid media, ensuring that the sample is rapidly eluted into a homogenous sample solution.

	Ref.	*Colour code*	*Shaft/Applicator*	*Pack qty.*
CM655-09	480CE	Pink	Plastic/regular	50
CM655-14	481CE	Orange	Plastic/mini	50
CM655-19	482CE	Blue	Plastic/pernasal	50
CM655-24	483CE	Orange	Plastic/urethral	50
CM655-29	484CE	Blue	Plastic/paediatric	50



CM630 in use



CM655

Loops, Streakers and Scrapers

Inoculation loops, Sterilin disposable
Available in hard or soft versions manufactured in rigid or flexible polymers respectively. Gamma irradiated. Supplied in packs of 800.

CM670-08 1µl, hard, SL1H
CM670-16 1µl, soft, SL1S
CM670-18 10µl, hard, SL10H
CM670-26 10µl, soft, SL10S

Quadloops, Sterilin disposable
Polystyrene gamma irradiated. With sphere. Supplied in packs of 1000.

CM670-25 1µl, QL1
CM670-30 10µl, QL10

Culture Media Inoculators
Disposable, single-ended, sterile polystyrene loops, needles and L-shaped spreaders for culture media inoculation. Gamma irradiated for sterility. Choice of inner sleeve quantity and supplied in outer packs as indicated.

	Description	*Inner sleeve qty.*	*Outer pack qty.*
CM676-10	10µl loop	20	1000
CM676-20	5µl loop	20	1000
CM676-30	1µl loop	20	1000
CM676-43	needle	20	1000
CM676-45	spreader	20	500
CM676-49	spreader	5	500

Microloops, disposable
Accurately calibrated. 29swg 80/20 nickel chromium wire. Volume indicated can vary depending on vertical or horizontal immersion and the liquid or broth viscosity. Supplied in transparent packs of 25, except the holder which is supplied singly.

	Volume µl	*Loop i.d. approx. mm*
CM680-10	10	5.05
CM680-15	5	3.57
CM680-20	3.3	2.91
CM680-25	2.5	2.52
CM680-30	2	2.26
CM680-35	1	1.59
CM680-65	Holder 200mm	

Microloops, disposable
Polystyrene, gamma irradiated. Supplied in inner sleeves of 20 within outer packs of 1000.

CM684-12 1µl
CM684-15 10µl

Microstreakers, for inoculation
Loop of nickel chromium wire not more than 60mm in length conforming to Howie code recommendations. Supplied in packs of 5. Volumes stated are approximate.

	Volume µl	*Size*
CM700-10	10	Large
CM700-15	3.3	Medium
CM700-20	2	Small
CM700-60	Straightwire	plain

Cell rake/scrapers – *see TP535.*

Clinical thermometers - *see TG730.*

Liquid fuel burner – *see BY400.*

Wire loop sterilisers – *see BY340.*

Wire loop steriliser, SteriMax

Wire loop steriliser, SteriMax
For the sterilisation of wire inoculation loops, needles or dissection instruments, where the use of gas or exposed flames are not allowed. The cylindrical silica tube is externally wound with heating elements allowing rapid heating up to 900°C. The heater tube assembly can be adjusted by up to 7 different angles and the all-stainless steel housing is easily cleaned. An integral spray protector for enhanced safety when handling pathogenic material. With visual "burner hot" indicator, inoculation loop holder and tray for 3 holders. Overall 175 x 129 x 139mm W x D x H. Weight 1100g. For 230V 50/60Hz single phase supplies. 120W.

CM705-10 SteriMax

Whatman AA Discs

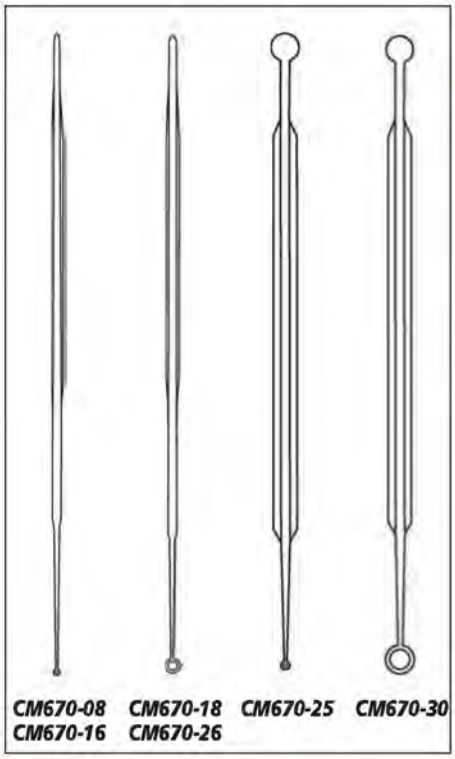
AA Discs, Whatman
For antibiotic assay. Supplied in packs of 1000.

CM760-10 6mm
CM760-15 13mm

Protein Saver Cards Whatman - S&S

For collection and transport of blood and body fluid samples. Ideal for short-term specimen handling, protein or metabolite studies. Printed with five defined sample areas for application of up to 80µl of sample each, allowing separate processing if necessary. Supplied in a pack of 100.

CM780-20 10 531 08



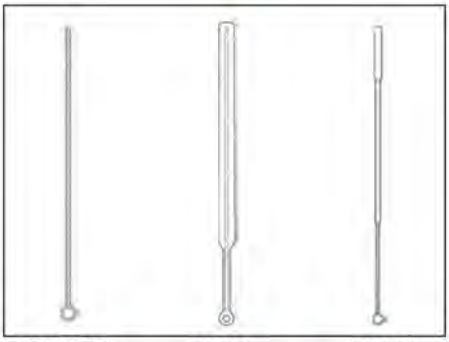
CM670-08 CM670-18 CM670-25 CM670-30
CM670-16 CM670-26



CM676



CM705-10 in use



CM680-10 CM684 CM700



CM780

Clinical Sundries

Urine Test Glasses, Conical

CM825-10 100ml
CM825-15 150ml
CM825-17 175ml

Cylindrical

With conical inner base for sediment.

CM825-40 100ml
CM825-45 150ml

Urinometer set, glass

For measuring the specific gravity of urine. Range 1.000 to 1.060 calibrated at 60°F (15.5°C). Supplied complete in pack with glass test jar, capacity approximately 60ml.

	Description
CM848-10	Urinometer/test jar

Spare parts

Urinometer only, glass. Range 1.000 to 1.060.

	Description
CM850-10	Urinometer

Test jar glass, capacity approximately 60ml.

CM852-06 Test jar

Urinalysis Tubes, Sterilin

16 x 100mm, 11ml capacity, polystyrene, non-sterile tubes. With round bottom for efficient mixing within automated urine analysers including Sysmex UF1200/UF1000i, Iris IQ200 and Menarini sediMax. Accessory polyethylene push-fit caps are available to re-cap the tube if required.

CM860-25 Urinalysis tubes, 30932, pack of 750
CM860-27 Push-fit caps,13CAP, for CM860-25, pack of 1000

Double-bagged containers, Sterilin

Designed for use where complete sterility must be ensured, i.e. hospital theatres. Polystyrene, plain labelled, with cap as indicated. Each container is double-wrapped within two "easy-tear" bags. CE-marked in compliance with the in-vitro diagnostic (IVD) directive, and gamma-irradiated with irradiation dot to indicate sterility.

	Capacity ml	*Cap material**	*Pk qty.*
CM870-10	30	PP	150
CM870-20	100	Me	80
CM870-30	250	Me	40

*PP = polypropylene. Me = metal.

Other specimen and sample containers can be found in the Bottles section - *see BS200/BS248.*

Sterilisable disposal bags - *see BA030/BA090.*

Sterile spatulas - *see TP493.*

Specimen Cups, Elkay

Polypropylene with polyethylene screw cap (except CM900-15 which has no cap). Capacity 120ml. Specimen volume can be checked visually using the moulded graduations. Frosted write-on areas on container and cap provide for convenient sample identification. The sterile cups are individually wrapped. Supplied in packs as indicated.

Bulk packed

CM900-12 Non-sterile, with natural cap, pack of 500
CM900-15 Non-sterile, without cap, pack of 1000

Individually wrapped

CM900-39 Sterile, with red cap, pack of 300

Digital Clinical Thermometer

Range 32 to 42°C with LCD temperature indication to 0.1°C. Symbols "L" (low) and "H" (high) indicate when the temperature is outside the normal limits and the °C symbol flashes until the temperature has stabilised. Accuracy ±0.1°C between 35 and 38°C and ±0.2°C outside this range. Powered by one 1.5V silver oxide battery type SR41 which has a life equivalent to about 4000 temperature measurements in normal use. Overall 110 x 14 x 8mm. Weight 7g. With battery.

TG715-10 Digital clinical

BL630-06 Spare battery, 1.5V

Clinical Thermometers

Gallium filled. Stubby bulb and lens front. Length 100mm. In plastic case. 35 to 42˚C - *See TG700.*



CM860



CM900-12, CM900-15 and -39 are similar



CM825-10 CM825-40 CM848-10



CM870 in use



TG715

Clinical Sundries continued

Sharps Bins, to BS7320:1990

A comprehensive range of puncture resistant, rigid polypropylene bins with snap-tight lids for the safe containment and disposal of sharp objects. Manufactured to BS7320:1990, UN3291, AFNOR NFX 30-500 and follow the UK Department of Health 'Safe Management of Healthcare Waste' guidance colour coding system.

- Designed for incineration or other authorised process for European Waste Catalogue (EWC) codes 18-01-01, 18-01-03, 18-02-01 and 18-02-02# Sharps excluding those contaminated with medicinal products
- Simple, two-stage sliding shutter in lid allows temporary or permanent closure as required
- Brightly coloured case, clearly marked with relevant warnings, assembly and closure instructions, and highly visible fill line

Supplied singly.

CM915-16 Sharps Bin, 0.6 litres
CM915-21 Sharps Bin, 1.0* litres
CM915-26 Sharps Bin, 2.5 litres

CM915-31 Sharps Bin, 5.0 litres
CM915-36 Sharps Bin, 7.0 litres
CM915-41 Sharps Bin ,22.0 litres
*Rectangular shape.

Please note: Bins for processing other EWC code waste are also available - *details on request.*

Safety Pouches

For sharps and biohazard wastes. Thick paper board which opens to an oval shape and is printed with the biohazard symbol. Overall dimensions when flat 140 x 330mm. Supplied in pack of 5.

CM920-10 Safety pouches

Glass Disposal Boxes

For safe disposal of glass and other non-combustible waste material. Made from liquid-proofed material and features large character warning. Packed flat in 25's for convenient storage. Easy assembly. Assembled size 510 x 295 x 295mm. Supplied in pack of 25.

CM926-10 Glass disposal boxes



CM915-16



CM915-31



CM920-10



CM915-21



CM915-41



CM926

Apparatus/Tubing Clips and Clamps

Clips/Clamps
Providing shut-off or flow control for flexible tubing.

	Type	Max. tubing dia. mm	Material
CP100-15 CP100-19	Mohr	10 12	Nickel plated alloy
CP103-10	Ratchet	10	Polypropylene
CP106-08 CP106-10	Centre hinged, spring	8 10	Stainless steel and acetal
CP109-10 CP109-15 CP109-20	'Stop-it', bottom hinged	10 15 20	PVDF and zinc plated steel
CP110-12	Open sided	12	Nickel plated brass
CP114-25 CP114-30 CP114-40	Hoffman, bottom hinged, light	25 30 40	Nickel plated brass
CP115-40	Hoffman, bottom hinged	40	Nickel plated brass
CP120-14	Hoffman side hinged	14	Acetal
TY900-20 TY900-25 TY900-30 TY900-40	Non slip, serrated wheel	4.5 6 10 14	PBT*. Sterilisable up to 134°C

*Polybutylene terephthalate.

Clips
For securing flexible tubing on nozzles and pipes.

	Type	Outside dia. of tubing accepted, mm	Material
CP130-17 CP130-22 CP130-26 CP130-32	Worm drive	10 to 16 12 to 22 16 to 25 20 to 32	Zinc plated steel with brass screw
CP135-10 CP135-12 CP135-14 CP135-17 CP135-19	Unex hose hexagon head	8 to 10 9 to 12 10 to 14 13 to 17 15 to 19	Stainless steel with brass screw
CP135-22 CP135-25 CP135-27 CP135-30		18 to 22 21 to 25 23 to 27 26 to 30	
CP135-33 CP135-35 CP135-38 CP135-41		29 to 33 31 to 35 34 to 38 37 to 41	

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CP100

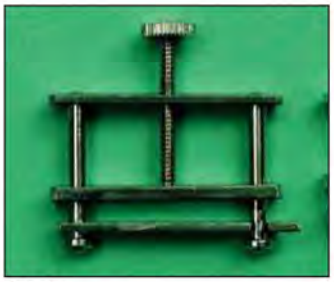

CP110

CP115


CP130


CP103


CP106


CP114


CP120


CP109


CP135


TY900 in use

Apparatus/Tubing Clips and Clamps continued

Azlon

SciLabware
AZLON® MBL® PYREX® QUICKFIT®

Clips, Azlon

For holding glassware, rigid tubing, tools, etc. With screw fixing hole.

	Type	Diameter to be held mm	Ref.
CP145-09	Closed spring	9	CWH009
CP145-12	polyethylene	12	CWH012
CP145-19	coated metal	19	CWH019
CP145-25		25	CWH025
CP145-32		32	CWH032
CP145-38		38	CWH038
CP147-09	Open spring	9	CWH109
CP147-12	polyethylene	12	CWH112
CP147-25		25	CWH125
CP147-32		32	CWH132

Clips, Quickfit

For securing conical and spherical glass joints. QGC and QGS clips have PTFE-encapsulated steel springs, are highly resistant to chemical attack and can be used up to 250°C. QKC and QKS clips are Delrin® polyacetal, suitable for use up to 80°C and with most chemicals except halogen gases and acids.

Joint Size	Colour Code	PTFE	Delrin®
For conical glass joints			
10/19	Mint	QGC10	QKC10
12/21	Violet	QGC12	QKC12
14/23	Yellow	QGC14	QKC14
19/26	Blue	QGC19	QKC19
24/29	Green	QGC24	QKC24
29/32	Red	QGC29	QKC29
34/35	Orange	QGC34	QKC34
40/38	Ochre	QGC40	QKC40
45/40	Brown	QGC45	QKC45
For spherical glass joints			
S13	Violet	—	QKS13
S19	Blue	—	QKS19
S29	Red	—	QKS29
S35	Orange	—	QKS35

Delrin® is a registered trademark of DuPont Ltd.



CP145



QGC



QGS in use



CP147



QKC, QKS series

Colony Counters

Portable

Colony Counter, portable
Hand-held, battery operated counter with four-digit liquid crystal display of cumulative count. A selector switch allows counting up or down. The high visibility felt tip will mark glass or plastic dishes and is oil and water resistant. An electronic bleep confirms each recorded mark. Supplied with one each red and black tip and 3V battery.

CR270-10	Colony counter, portable
CR272-05	Spare black tip
CR272-07	Spare red tip
BL590-05	Spare battery 3V

Colony Counter, portable
Hand-held, battery operated, pen-style counter with five digit LCD readout of accumulative count-up and reset. With positive "click" registration of tip pressure, confirmation beep (unless tip is pressed in rapid succession) and felt tip pen with water-based, black ink that can be removed from glass or plastic surfaces once the count is complete. Overall 155 x 19mm L x dia. Weight 30g.

CR275-15	Colony counter, pen
CR276-04	Spare black tip pen
BL630-06	Spare battery, 1.5V

Tally and Totalising Counters
Tally counters – *see CW608, CW610 and CW620 series.*

Totalising counters – *see CW650 series.*

Eyepiece Graticules
For use in light microscopes to assist counting – *see ML200 to ML220 in the Microscope section.*

Incubators
Including cooled and CO_2 models for growing cultures – *see Incubators section.*

Media inoculators
Including: Loops, Needles, Spreaders, Swabs – *see Clinical section.*

Digital Count

High specification model for reliable and efficient bacterial colony counting on nutrient agar in petri dishes.

- Glare-free, evenly distributed, peripheral LED illumination with adjustable dimming
- Adjustable count pressure sensitivity
- LED count display 0 to 9999 with reset button and adjustable volume, audible count signal
- Any probe or felt-tip marker is suitable for counting
- Includes contrast disc for counting colonies on clear or dark agars
- Wide choice of accessories available

Colony Counter, Count
As described. With pressure pad, adjustable illumination and count pressure sensitivity, audible count signal and USB output port. Fitted with LED count display, reset button, mains switch, dimming, sensitivity and count signal adjustment controls. Without magnifier. Overall 260 x 250 x 130mm W x D x H. Weight 3kg. For 100-240V 50/60Hz single phase supplies.

CR303-40	Colony counter, Count

Accessories

CR303-72	Magnifier, 3X, 100mm dia. goose neck stem
CR303-74	Magnifier, 8X, 100mm dia. goose neck stem
CR303-76	LED 'top' illuminator for lighting cultures from above
CR303-80	Adapter for centring 50/60mm dia. petri dishes
CR303-83	Adapter for centring 140/150mm dia. petri dishes
CR303-85	Spiral plater disc, black/white
CR303-87	Wolffhuegel grid counting plate
CR303-89	USB cable for connection to user's PC

Digital SC6+

- LED digital readout to 999 counts
- Adjustable pressure sensitive count system
- Can be used with probe or felt-tipped pen
- Audible confirmation of each count
- Built-in average count facility allows multiple plates to be counted and average colony count calculated
- Glare-free, peripheral illumination
- Choice of light or dark background
- Accepts up to 90mm diameter petri dishes
- Can be connected to an accessory printer or the user's PC via a USB output and cable, enabling download of colony statistics and eliminating manual errors
- Accessory 1.7X and 3X magnifiers allow smaller colonies to be counted

Colony Counter, digital, Stuart SC6+
As described. With peripheral illumination and sloping front to reduce operator fatigue, zero/reset/average keys, mains switch and count pressure sensitivity control. Supplied with one Wolffhuegel graticule, dish centring adapters for 50 to 90mm diameter dishes, a USB interface and cable, and one segmentation disc. Without magnifier. Overall 310 x 300 x 140mm W x D x H (without magnifier). Weight 1.5kg. For 230V 50Hz single phase supplies.

CR315-70	Colony counter SC6+

Accessories

CR315-85	Magnifier, 1.7X
CR315-87	Magnifier, 3X
CR315-90	Wolffhuegel graticules, pack of 10
CR315-95	Accessory printer with power adapter for 100-250V 50/60Hz supplies

Petri dishes and accessories – *see Petri Dish and Tissue Culture sections.*



CR270 in use



CR303-40 in use with accessories



CR315-70 with accessories



CR275-15 in use



CW620-40



CW650-10

The Lovibond® 2000+ Comparator System

Lovibond®

A unique colorimetric chemical analysis system which is portable, accurate, and equally suited to laboratory or field use.

The system comprises

- Lovibond® 2000+ Comparator
- Glass colour standards discs
- Tablet or liquid reagents

Comparator, Lovibond® 2000+

A prism unit and integrated large cell attachment (for cells up to 40mm path length) are incorporated in the instrument. Although robust, it is pocket sized and lightweight, made of solvent and acid resistant material. The discs are simply inserted from the side in cassette fashion, making it a simple operation to change discs when required.

CS100-20 2000+ Comparator

Glass Colour Standards, Lovibond®

Comprise flat, chemically produced, coloured glass standards mounted in plastic discs and guaranteed fade-free. The range available is very extensive and we show below a selection only of the most popular. Please contact us should you require other discs or ranges not listed here.

	Disc code	*Range*	*Method*	*Accessories required*	*Applications and remarks*
Ammonia					
CS125-12	3/113	0 to 1.0mg/l N	Ammonia No.1 tablets	13.5mm cells	
CS125-16	3/125	0 to 10mg/l N	Ammonia No.2 tablets	5mm cells	Effluent discharges
Chlorine (in water)					
CS127-10	3/40A	0.1 to 1.0mg/l	DPD	13.5mm cells	
CS127-12	3/40S	1.0 to 4.0mg/l			
CS127-14	3/40B	0.2 to 4.0mg/l			
CS127-20	3/40E	0.02 to 0.3mg/l	DPD	40mm cell	
CS127-32	3/40K	0.5 to 6.0mg/l	DPD	13.5mm cells	
CS127-33	3/40HN	2 to 10mg/l		5mm cell	
CS127-60	NDPB	0.01 to 0.1mg/l	DPD	Nessleriser 2150	
CS127-62	NDPC	0.02 to 0.2mg/l		Pair Nessler tubes AF306	
CS127-66	NDP	0.05 to 0.5mg/l			
CS127-68	NDPD	0.1 to 1.0mg/l			
CS128-17	3/2ARP	5 to 50mg/l	Potassium iodide	13.5mm cells	Water mains. Food processing
CS128-19	3/2Iod	5 to 250mg/l			
CS128-21	3/2Hypo	2 to 16% w/w			
Hazen Scale					
CS130-08	NSH	10 to 90mg Pt/l sample	Direct comparison against Pair Nessler tubes AF306	Nessleriser 2150	American Public Health Association, ASTM, and British Standards
CS130-12	NSB	70 to 250mg Pt/l		Daylight 2000	
pH					
CS132-12	2/1E	4.4 to 6.0	Methyl red	13.5mm cells	
CS132-14	2/1F	4.8 to 6.4	Chlorophenol red		
CS132-16	2/1G	5.2 to 6.8	Bromocresol purple		
CS132-18	2/1H	6.0 to 7.6	Bromothymol blue		
CS132-20	2/1J	6.8 to 8.4	Phenol red		
Sugar					
CS136-20	3/29A	0 to 100mg/l	alpha-Napthol*	5mm cells	Sugar in boiler or drain waters within refineries

*Details on request.

Accessories for the 2000+ comparator are listed on the next two pages.





CS100-20

The Lovibond® 2000+ Comparator System, continued

Reagents
Tablets and liquid reagents for use with the Lovibond® discs.

	Description	Test	For Disc	Pack qty.
Tablets				
CS180-11	Ammonia combi pack, No.1 & No.2 (250 each)		3/113, 3/125	250
CS181-10	DPD No. 1 (3/40)	Chlorine	3/40 series	100
CS181-11	DPD No. 1 (3/40)			250
CS181-12	DPD No. 2 (3/40)			100
CS181-14	DPD No. 3 (3/40)			100
CS181-15	DPD No. 3 (3/40)			250
CS181-16	DPD No. 4 (3/40)			100
CS181-30	DPD No. 1 (NDP)	Chlorine	NDP series	100
CS181-32	DPD No. 2 (NDP)			100
CS181-34	DPD No. 3 (NDP)			100
CS181-36	DPD No. 4 (NDP)			100
CS181-55	Chlorine combi pack, KI and acidifying G.P. tablets (250 each)		3/1 ARP, 3/2 Ind. 3/2 hypo	250
CS184-22	Phenol Red	pH	2/1J	100
CS184-26	Bromo Thymol Blue		2/1H	100

	Description	Test	For Disc	Cap. ml.
Solutions				
CS192-12	Methyl Red	pH	2/1E	100
CS192-14	Chlorophenol Red		2/1F	100
CS192-16	Bromocresol purple		2/1G	100

Cells
For use with the Lovibond® 2000+ comparator. Supplied singly unless otherwise stated.

	Description	Path length mm
Moulded, optically clear, glass		
CS210-10	Square section,10ml, supplied with plug stopper, pack of 5	13.5
Moulded, optically clear, plastic		
CS210-15	Square section,10ml, supplied with plug stopper, pack of 5	13.5
CS210-35	Stand for holding 10 x 10ml cells	
Fused optical glass, W680 series		
CS215-14	Rectangular, without lid	5
CS215-18	Rectangular, without lid	10
CS215-22	Rectangular, without lid	13.5
CS215-28	Rectangular, without lid	25
CS215-36	Rectangular, without lid	40

Tablets and cells for all Lovibond® comparator tests are available – *please contact us with your requirements.*

Hach portable water laboratories – *see WR840.*

Water testing strips – *see WS550/WS560.*



Typical discs



Tablets



CS210-10, CS210-15 is similar



CS215



CS210-35

The Lovibond® 2000+ Comparator System, accessories

Daylight Unit
Fits into the back of the comparator and provides simulated illuminant C artificial daylight for precise colour comparisons. Powered by rechargeable batteries with a battery low indicator. The unit cuts out on release of the switch button to preserve battery and bulb life. Three batteries included. For use with CS100-20 only.

CS255-14 Daylight unit

Recharger for CS255-14. For 240V 50Hz supplies.
CS257-10 Recharger

Daylight 2000 lighting units
Separate, bench-mounted artificial light sources for the 2000+ comparator or 2150U/2250U Nessleriser modules. Provide a constant and stable light corrected to CIE standard illuminant C, essential for precise colour comparisons. Supplied with low voltage power supply adapter. A 220-240V a.c. single phase supply is required for the adapter.

CS265-20 Daylight 2000 for for comparator only
CS272-40 Nessleriser Daylight 2000 for Nessleriser modules only

Nesslerisers 2150, 2250
Complete Nessleriser systems comprising Nessleriser Daylight 2000 artificial light source, Nessleriser modules for 113mm or 250mm path length cylinders, daylight stand with reflective plate for use with natural light, and two cylinders with anti-meniscus plungers. For 220-240V a.c. single phase supplies.

CS270-15 2150, Nessleriser complete, for 113mm cylinders
CS270-20 2250, Nessleriser complete, for 250mm cylinders

Nesslerisers, Natural Daylight, 2150D, 2250D
Comprise Nessler modules for 113mm path length cylinders or 250mm path length cylinders and daylight stand with reflective plate for natural daylight use. Supplied without cylinders or plungers.

CS270-40 2150D, Daylight Nessleriser for 113mm cylinders
CS270-45 2250D, Daylight Nessleriser for 250mm cylinders

Nessler Modules 2150U, 2250U
For use only with Nessleriser Daylight 2000 light source and 113mm path length cylinders or 250mm path length cylinders. Supplied with two cylinders and anti-meniscus plungers.

CS272-14 2150U, Nessler Module for 113mm cylinders
CS272-19 2250U, Nessler Module for 250mm cylinders

Discs for use with above – *see CS125 et seq.*

Spare nessler cylinders – *see next page.*

Lovibond® 3-Field Comparators

For colour grading to: Gardner scale for drying oils, F.A.C. scale for fats, E.B.C. scale for beers – *details on application.*

Lovibond® Kits for water testing – *see Water Testing section.*

Lovibond® Minikits for water testing – *see Water Testing section.*

Turbidimeters for water testing – *see Water Testing section.*



CS265-20 with CS100, CS210, discs



CS270-20, CS270-15 is similar



CS270-40 with discs and tablets



CS272-19



Minikits

Nessler Cylinders

Nessler Cylinders
Glass. With anti-meniscus plungers (except CS275-10). Supplied in matched pairs.

	Ref.	*Path length mm*
CS275-10	AF306	113
CS275-12	AF306/P	113
CS275-20	DB420	250

Stand AF306/S. Holds 12 Nessler cylinders. AF306 and DB420 series.
CS275-40 AF306/S

Nessler Cylinders, MBL
Soda-lime glass. With black enamel graduations and inscriptions.

	Ref. CRC	*Cap. ml*	*Grad. at, ml*
CS402-35	320	50	50
CS402-40	322	100	50 & 100

Flocculator – *see WR230 series.*

Turbidimeters – *see WT095.*

Manual Colorimeters, Tintometer® Model F

Lovibond®

For examining the colour of liquid and solid samples by either reflected or transmitted light. With comfortable viewing position and operation via the prismatic optical system with angled viewing tube, diffused tungsten-halogen light source for standardised illumination and external low voltage power supply giving cool running over prolonged periods of use. With full range of Lovibond glass filters:-

0.1 to 70 red
0.1 to 70 yellow
0.1 to 40 blue
0 to 3 neutral

Supplied in two formats:

- Model F for applications requiring examination of fats and fatty oils, bleached lac, liquid chemicals and pharmaceuticals
- Model F (BS684) is a dedicated version for grading animal or vegetable fats and oils according to BS684: Section 1.14, ISO15305 and AOCS Method Cc13e-92

Both models are supplied with a set of colour standard racks, sample chamber liner with a standard white reference, spare white reference, colour analysis book, 2 spare lamps and instructions.

Model F only is also supplied with 1 each 1" (25mm) and 5¼" (133mm) path length rectangular fused glass cells.

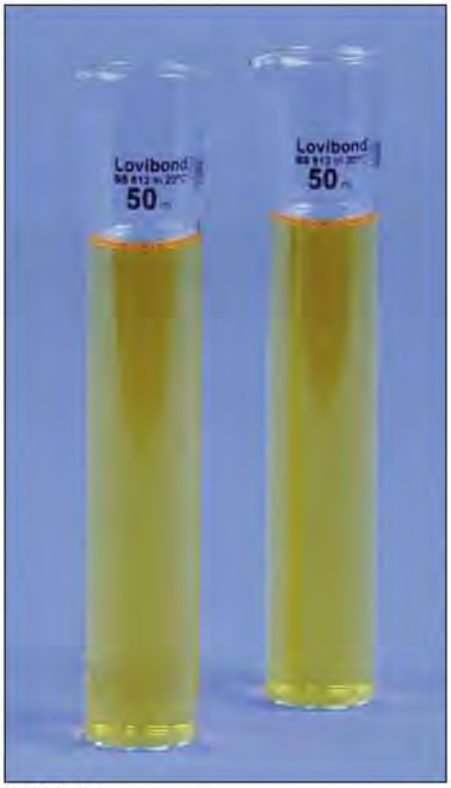
Model F (BS684) only is supplied with one each 1/16", 1/8", ¼", ½", 1" and 5¼" cells.

Manual Colorimeters, Tintometer® Model F
As described. Overall 330 x 410 x 230mm W x D x H. Weight 8.3kg. A 110V or 220V single phase supply is required for the external power supply.
CS700-20 Model F
CS700-40 Model F (BS684)

Cells, W600 Series
For use with Model F series colorimeters.

	Path length
Optical glass, W600	
CS780-14	10mm
CS780-18	20mm
CS780-20	25mm
CS780-24	33mm
CS780-26	40mm
CS780-32	50mm
CS780-38	1/16"
CS780-42	1/8"
CS780-44	¼"
CS780-46	½"
CS780-48	1"
CS780-58	5¼"
Borosilicate glass W600/B	
For hot materials.	
CS782-48	1"
CS782-58	5¼"

Lovibond® Tintometer® Colorimeters for petroleum products testing – *see Petroleum section.*



CS275-10



CS700 with cells

Electronic Colorimeters, PFXi-195 Series

Lovibond

Low cost spectrophotometric colorimeters for consistent, reliable, automatic, electronic measurement of colour for specific dedicated applications involving liquids or transparent solids. Ideal for routine analysis and quality control.

- Choice of instrument versions with international colour scales:
  - Pt-Co/Hazen/APHA, Gardner, Iodine
  - Saybolt, ASTM colour, Pt-Co/Hazen/APHA
  - FAC, Gardner
  - EBC (CIE and 430nm), ASBC (CIE and 430nm) Series 52 (Brown)
  - Ph. Eu., USP, Pt-Co/Hazen/APHA
  - Klett colour (KS-42 blue filter), Honey colour (Pfund equivalents), Series 52 (Brown)
  - ADMI (spectral and tristimulus filter methods), Pt-Co/Hazen/APHA
  - CIE values (stand selection), L*C*h colour space, Hunter lab colour space, Judd rgb
- 9 built-in interference filters with automatic selection
- Operator prompting in choice of 9 languages - English, French, German, Spanish, Italian, Portuguese, Russian, Chinese and Japanese
- RS232, USB and LAN outputs
- Supplied with Windows™-based control/downloading/analysis software which also enables the generation of spectral and CIE programmes

CIE Colour Scales

All instruments allow the operator to select measurement of samples to CIE specifications of xy chromaticity co-ordinates, luminance factor, L*a*b* colour space (CIE LAB), Delta E, optical density, % transmission and % absorption.

Technical Specification

Spectral response	*nm*	420 to 710
Band width	*nm*	20
Repeatability (using deionised water):		
Chromaticity (x,y):		±0.0004
E:		0.04
Calibration		Single key press
Light source		5V, 10W tungsten halogen lamp
Illuminant		CIE illuminant A, C, D65 (B for PFXi195/4)
Sample chamber	*mm*	0.1 to 50 path length cells
Outputs		RS232, USB, LAN
Data storage		100,000 measurements
Power requirement		90-240V 50/60Hz single phase supplies
Overall W x D x H	*mm*	435 x 195 x 170
Weight	*kg*	6.8

All colorimeters are supplied with Windows™ control/downloading/analysis software, optical glass cells for the colour scales as indicated, certified glass filter for regular conformance testing, spare lamp and instructions.

Colorimeter PFXi-195/1
For liquid chemicals and industrial oils analysis.
Scales: Pt-Co/Hazen/APHA, Gardner, Iodine
Cells supplied: 1 x 10mm, 1 x 50mm path length.
CS725-15 PFXi-195/1

Colorimeter PFXi-195/2
For liquid chemicals and industrial oils analysis.
Scales: Saybolt, ASTM colour, Pt-Co/Hazen/APHA
Cells supplied: 1 x 33mm, 1 x 50mm path length.
CS725-25 PFXi-195/2

Colorimeter PFXi-195/3
For liquid chemicals and industrial oils analysis.
Scales: FAC, Gardner
Cells supplied: 1 x 10mm path length.
CS725-35 PFXi-195/3

Colorimeter PFXi-195/4
For liquid chemicals and industrial oils analysis.
Scales: EBC (CIE and 430nm), ASBC (CIE and 430nm). Series 52 (Brown)
Cells supplied: 1 x 10mm, 1 x 25mm path length.
CS725-45 PFXi-195/4

Colorimeter PFXi-195/5
For liquid chemicals and industrial oils analysis.
Scales: Ph. Eu, USP, Pt-Co/Hazen/APHA
Cells supplied: 1 x 40mm, 1 x 50mm path length.
CS725-55 PFXi-195/5

Colorimeter PFXi-195/6
For industrial oils and surfactants analysis.
Scales: Klett colour (KS-42 blue filter), Pt-Co/Hazen/APHA, Hess-Ives colour units
Cells supplied: 1 x 10mm, 1 x 50mm path length.
CS725-65 PFXi-195/6

Colorimeter PFXi-195/7
For sugar solutions, syrups and honey.
Scales: ICUMSA (420, 560, 710nm), Honey colour (Pfund equivalents), Series 52 (Brown)
Cells supplied: 1 x 10mm path length.
CS725-75 PFXi-195/7

Colorimeter PFXi-195/8
For water and waste water analysis.
Scales: ADMI (spectral and tristimulus filter methods), Pt-Co/Hazen/APHA
Cells supplied: 1x 10mm, 1 x 50mm path length.
CS725-85 PFXi-195/8

Colorimeter PFXi-195/9
For transparent liquids.
Scales: CIE values (standard selection), L*C*h colour space, Hunter lab colour space, Judd rgb.
Cells supplied: 1 x 10mm path length.
CS725-95 PFXi-195/9

Spare cells. Optical glass, W600

	Path length mm
CS780-14	10
CS780-18	20
CS780-20	25
CS780-24	33
CS780-26	40
CS780-32	50



CS725

Digital Colorimeter

JENWAY

For routine colorimeter determinations over the visible spectrum.

- Eight in-built filters with thumb wheel selection
- Transmittance, absorbance and concentration modes
- Excellent sampling flexibility
- Mains or battery operated

The concentration ranges are electronically linearised and give fine and coarse control over absorbance readings. In this mode and using most methodologies, concentration becomes direct reading. Eight in-built filters are provided enabling use in commonly encountered determinations over the range 400 to 710nm. The filters are selected by a thumb wheel. Fitted with a recorder output.

Digital Colorimeter
As specified. Supplied with pack of 100 10mm, 3ml cuvettes, eight in-built filters, a cell holder for one 10mm x 10mm cuvette, mains lead and instructions. Power requirements as specified in table. With recorder output.

CT100-15 Model 6051

Cuvettes

CT102-05 10mm 3ml plastic, pack of 100
CT102-12 10mm 1.5ml micro, plastic, pack of 100
CT102-23 Cuvette, flow-through, silica UV, 1.8ml

CT102-44 Glass cell 10mm x 20mm
CT102-46 Glass cell 10mm x 40mm

Interference filters

CT102-58 405nm
CT102-60 540nm

*Filter wavelengths above 710nm are only available to special order – *details on request.*

Catalogue No.	***CT100-15***
Model	6051
Wavelength nm	400 to 710 standard. Extendable from 400 to 800*
Wavelength selection	8 gelatine filters on a switched wheel. Peak wave lengths 430, 470, 490, 520, 540, 580, 600, 710nm. With optional drop in interference filters to extend range*
Bandpass	Typical 40nm. Interference filters typically 10nm
Ranges	0 to 100% T 0 to 1.50 abs 0.1 to 1000 conc.
Resolution	1% T 0.01 abs 0.1 to 1 conc.
Blank Drift	2%/hr after 15 mins
Photometric linearity	1%T
Readout	2½ digit, 17mm high LCD
Output	10mV/digit analogue
Light Source	Tungsten filament
Power	230V 50Hz a.c., 12V d.c. external
Overall mm	300 x 355 x 120
Weight kg	3



CT100-15

Chroma Colorimeter Model 260

Sherwood

Digital control and display utilising drop-in filters; programmable for rapid absorbance and Transmission measurements with Auto Reaction rate and End Point methods. With RS232 output.

Specifications

Catalogue No.		***CT500-35***
Model		260
Display		LCD with programming
Wavelength Selection		Gelatin and Interference Filters 410 to 720nm
Bandpass (stet)		40nm
Modes		Absorbance, Transmission, Concentration, Factor, Kinetic
Methods		100 programmable
Absorbance range	*A*	0.000 to 1.999
Absorbance resolution	*A*	0.001
Transmission range	*T*	0 to100%
Transmission resolution	*T*	0.1% s
Stability		Less than ±0.005A in any 15 minute period
Warm up		15 minutes
Photometric reproducibility		±1% T using same cuvette or test tube
Light source		Pre-focused tungsten lamp
Detector		Silicon photodiode
Output		RS232
Power requirements		90 to 264V or 12V d.c. battery
Overall L x W x H	*mm*	218 x 230 x 188
Weight	*kg*	2.2



CT500-35 with accessories

Colorimeter, Sherwood Scientific Chroma 260
As described. With sample holder, mains adapter, 100 10mm disposable cuvettes, spare fuse and lamp and instructions. For 97-264V 50/60Hz a.c. supplies. Requires accessory battery leads for 12V d.c. operation. Requires accessory gelatin or interference filters for operation.

CT500-35 Chroma 260
CT504-06 Spare plastic cuvettes, pack of 100

Accessories
Wavelength filters.

	Peak Wavelength, nm
Gelatin sealed in glass	
CT505-05	410
CT505-10	430
CT505-15	470
CT505-20	490
CT505-25	520
CT505-30	540
CT505-35	580
CT505-40	600
CT505-45	710
CT505-70	Set of eight (one each filters 430 to 710nm)
Interference	
CT506-12	510
CT506-17	546
CT506-22	660
CT506-27	680
CT506-32	720

Sample Holders
For test tubes and cuvettes.

	Test tubes	*Cuvettes*
CT507-12	small	2.5mm
CT507-14	medium	5mm
CT507-16	large	10mm

Test Tubes and Cuvettes, Glass

	Size	*Path length mm*	*Minimum sample vol. ml*
Test Tubes. Supplied as a matched set of 12.			
CT508-10	small	5	1
CT508-15	medium	10	2
CT508-20	large	15	4
Cuvettes. Supplied singly.			
CT508-60		10	2.8

Pour In/Suck Out Cell and Holder
10mm path length. Carry over less than 1% of difference in reading between consecutive samples.

CT510-10 Pour/Suck cell

Battery Leads
For using colorimeter on a 12V d.c. supply.

CT512-10 Leads

Colorimeters

CO7000 Medical Colorimeter

WPA

Designed for use by doctors and medical technologists in small to medium sized clinics and in the field.

- "Open" system accommodates both wet reagents and kits
- Easy operation via three buttons; reference, test and on/off
- Wavelength selection via 10 gelatine colour filters using a thumb wheel
- Accepts 10mm square or 16mm diameter round cells (also 10 and 12mm diameter tubes using accessory adapter set)
- Mains or rechargeable battery operation
- Tropicalised for field use in humid and hot environments

Catalogue No.		***CT520-60***
Model		CO7000
Wavelength	*nm*	400 to 700
Wavelength selection	*nm*	10 gelatine filters in a filter wheel 400, 440, 470, 490, 520, 550, 580, 590, 680 and 700
Precision		<±0.05A at 1A
Repeatability		±0.02A at 1A
Range	*Absorbance A*	-0.3 to 1.99
Power		NiMH rechargeable battery or adapter requiring a 220-240V 50/60Hz supply
Operating range		0 to +45°C up to 70% R.H.
Overall L x W x H	*mm*	180 x 150 x 60
Weight	*kg*	0.6

Medical Colorimeter CO7000
As described. Supplied with rechargeable battery, mains adapter for 220-240V 50/60Hz supplies, spare lamp and instructions.

CT520-60 CO7000

Accessories and Spares

CT504-06 10mm plastic cuvettes, pack of 100
TE154-32 16mm o.d. glass test tubes, pack of 150
CT522-40 Spare lamp for CO7000
CT527-14 10mm and 12mm dia. tube cell adapters set

Disposable micro and semi-micro cuvettes – *see CA305.*

CO7500 Series Colorimeters

WPA

Compact, robust, low-cost colorimeters for educational or quality control use.

- Straightforward operation using five push-button controls, colour filter wheel with 8 wavelength filters, and large, clear digital display
- Accept 10mm square or 16mm diameter round cells (also 10 and 12mm dia. tubes using accessory adapter set)
- Choice of mains or rechargeable battery powered models

Catalogue No.		***CT525-10***	***CT525-20***
Model		CO7500	CO7500B
Wavelength	*nm*	440 to 680 — both models	
Wavelength selection	*nm*	8 gelatine filters in a filter wheel 440, 470, 490, 520, 550, 580, 590 and 680 — both models	
Bandwidth	*nm*	40 — both models	
Repeatability		±0.2A at 1A — both models	
Ranges	*Absorbance A* *Transmission T*	-0.3 to 1.99 — both models 0 to 199% — both models	
Kinetics		Yes	Yes
Outputs	*Analogue* *Digital*	0 to 2V for 0 to 2A and 0 to 1.99V for 0 to 199%T via 2 x 4mm sockets — both models RS232 — both models	
Power		Adapter requiring a 220-240V 50/60Hz supply	NiMH rechargeable battery or adapter requiring 220-240V 50/60Hz supply
Overall L x W x H	*mm*	180 x 150 x 60 — both models	
Weight	*kg*	0.5	0.6

Laboratory Colorimeters CO7500 series
As described. Supplied with pack of 10 x 10mm plastic cuvettes, RS232 and 2 x 4mm analogue outputs, mains adapter and instructions. CO7500B additionally has a built in rechargeable battery, charged via the mains adapter. For 220-240V 50/60Hz single phase supplies.

CT525-10 CO7500 mains
CT525-20 CO7500 rechargeable battery

Accessories and Spares

CT504-06 10mm plastic cuvettes, pack of 100
TE154-32 16mm o.d. glass test tubes, pack of 150
CT527-06 Spare lamp for CO7500 series
CT527-14 10mm and 12mm dia. tube cell adapters set



CT520 in use



CT525

Conductivity/TDS meters DIST

HANNA

Simple dip sensors for water testing applications.

- Waterproof casing, float in water
- Replaceable probe
- Simultaneous display of conductivity or TDS and temperature
- Battery life, reading stability and ATC indicators
- Battery life approximately 100 hours continuous use

Catalogue No.		***CU570-20***	***CU570-25***
Model		DIST 5	DIST 6
Ranges	*Conductivity*	0 to 3999µS/cm	0.00 to 20.00mS/cm
	TDS	0 to 2000ppm	0.00 to 10.00ppt
	Temperature	0 to 60°C (32 to 140°F) — both models	
Resolution	*Conductivity*	1µS/cm	0.01mS/cm
	TDS	1ppm	0.01ppt
	Temperature	0.1°C or 0.1°F — both models	
Accuracy, (at 20°C)	*Cond./TDS*	±2% full scale — both models	
	Temperature	±5%C or ±1°F — both models	
Calibration		1-point, automatic with adjustable conversion factor from cond. to TDS — both models	
Temp. compensation	°C	Automatic with adjustable coefficient 0 to 2.4%/°C — both models	
Power		4 x 1.4V cells (Duracell MP675H or equivalent), auto shut-off after 8 minutes — both models	
Overall L x W x H	*mm*	163 x 40 x 26 — both models	
Weight	*g*	100 — both models	

DIST Conductivity Meters
As described. With probe and cap, 4 x 1.4V batteries, electrode removal tool and instructions.

CU570-20 DIST5
CU570-25 DIST6

Spares and accessories
CU572-02 Spare probe for CU570-20 and CU570-25
BL610-04 Battery, 1.4V (4 required)

Conductivity solution sachets
Individual 20ml sachets for immediate use. Supplied in packs of 25.

CU572-15 12.88mS
CU572-20 1413µS
CU572-25 84µS



CU570

Conductivity Meter, Twin Cond

Horiba

Convenient, pocket-sized, conductivity meter for small sample testing in the laboratory or in the field.

- Flat sensor requires minimal maintenance and is replaceable; only a drop of sample is required for measurement, or the probe can be dipped up to the fill-line
- Clear LCD readout with 3 ranges from 0 to 19.9mS/cm
- Alternative salinity display from 0.00 to 15%
- One-touch autocalibration

Catalogue No.		***CU599-10***
Model		B-173
Ranges x resolution	*µS*	0 to 199 x 1
	mS	0.20 to 1.99 x 0.01 2.0 to 19.9 x 0.1
Salinity	%	0.00 to 99.00 x 0.01, 1 to 9.9 x 0.1, 10 to 15 x 1
ATC range	°C	5 to 35 at 2%/°C fixed coefficient
Automatic calibration points		0 and 1.41mS
Power		2 x 3V batteries (CR2032 or equivalent)
Overall L x W x H	*mm*	150 x 27 x 16
Weight	*g*	46

Conductivity Meter, Twin Cond
As described. Supplied with 2 bottles of calibration solution (1.41mS), 1 bottle of deionised water, sampling dropper, soft storage case, instructions and batteries.

CU599-10 B-173
CU599-16 Spare probe for CU599-10
BL590-25 Battery, 3V (2 required)



CU599-10

Conductivity/pH Meter Model 430

JENWAY

- Simultaneous display of conductivity or TDS, pH and temperature
- Battery life approximately 100 hours
- Autoranging
- Automatic temperature compensation
- Backlit LCD readout
- Stored value recall function
- Combined pH and conductivity probe with integral ATC

	Ranges	*Resolution*	*Accuracy*
Conductivity	0 to 19.99µS 0 to 199.9µS 0 to 1999µS 0 to 19.99mS 0 to 199.9mS	0.01µS 0.1µS 1µS 0.01mS 0.1mS	±5% ±2 digits – all ranges
TDS	0 to 19.99mg/l 0 to 199.9mg/l 0 to 1999mg/l 0 to 19.99g/l 0 to 199.9g/l	0.01mg/l 0.1mg/l 1mg/l 0.01g/l 0.1g/l	±5% ±2 digits – all ranges
Temperature	–9.9 to +99.9°C 14 to 212°F	0.1°C 1°F	±0.5°C ±1°F
pH	0 to 14	0.01	±0.02
Temp. compensation	Automatic or manual over 0 to +99.9°C (32 to 182°F)		
Calibration conductivity	Direct calibration on standard solutions — 10µS, 84µS, 1413µS, 12.88mS recognised or by direct cell constant entry		
pH	Auto buffer recognition — pH4.00, 7.00, 9.22 and 10.05 recognised		
Cell constant	Adjustable, 0.01 to 19.99		
Input connector	Mini-DIN		
Overall dimensions	175 x 75 x 35mm L x W x D		
Weight	250g		

As described. Supplied with combined conductivity/pH/ATC probe, pH4.00, 7.00 and 10.05 buffer sachets, instruction manual, carrying case and 2 x 1.5V AA batteries.

CU610-30 Model 430 with case

Accessories and Spares

CU611-25 Spare conductivity/pH probe, mini-DIN connector
PJ364-55 Rigid carrying case for CU610-series
BL610-25 Battery 1.5V AA (2 required)

Conductivity/TDS Meter Model 470

JENWAY

- Selectable resolution, conductivity or TDS ranges
- Backlit LCD readout
- Reading hold function
- Autoranging to optimise resolution
- Stored value recall function
- Battery life approximately 500 hours
- Direct calibration on standard solutions or by cell constant entry

	Ranges	*Resolution*	*Accuracy*
Conductivity	0 to 19.99µS 0 to 199.9µS 0 to 1999µS 0 to 19.99mS 0 to 199.9mS 0 to1999mS	0.01µS 0.1µS 1µS 0.01mS 0.1mS 1mS (using K=1 cell)	±5% ±2 digits – all ranges
TDS	0 to 19.99mg/l 0 to 199.9mg/l 0 to 1999mg/l 0 to 19.99g/l 0 to 199.9g/l 0 to 1999g/l	0.01mg/l 0.1mg/l 1mg/l 0.01g/l 0.1g/l 1g/l (using K=1 cell)	±5% ±2 digits – all ranges
Temperature	–10 to +105°C 14 to 212°F	0.1°C 1°F	±0.5°C ±1°F
Temp. compensation	Automatic or manual over 0 to +99.9°C (32 to 212°F)		
Calibration	Automatic standard recognition with manual override, 10µS, 84µS, 1413µS, 12.88mS recognised		
Cell constant	Adjustable, 0.01 to 19.99		
Input connector	Mini-DIN		
Overall dimensions	175 x 75 x 35mm L x W x D		
Weight	250g		

As described. Supplied with 2 x 1.5V AA batteries, carrying case and epoxy conductivity cell, K=1 with built-in ATC.

CU612-20 Model 470 with case

Accessories and Spares

CU614-06 Spare conductivity cell K=1 with ATC
CU614-09 Spare conductivity cell K=0.1 with ATC
CU614-12 Spare conductivity cell K=10 with ATC

BL610-25 Battery, 1.5V AA (2 required)
CU614-50 Hard carrying case for CU612-20

Conductivity standards - *see CU658-series*



CU610



CU612

Hand-held, Waterproof Multi-range Meters

SI Analytics Handylab LF12

- Shock-proof, water-tight casing to IP66 standard
- Simultaneous display of conductivity, TDS, resistivity or salinity and temperature
- Automatic temperature compensation and reference temperature of or 25°C selectable
- Data storage of up to 800 records with manual, or timed logging

Ranges	*conductivity*	0 to 500mS/cm (autoranging) 0.00 to 19.99µS/cm (at K=0.1 and K=0.01) 0.000 to 1.999µS/cm (at K=0.01)
	spec. resistance	0 to 1999M
	salinity	0.0 to 70.0ppt (acc. IOT*)
	TDS	0 to 1999mg/l (factor adj. 0.40 to 1.00)
	Auto. temp. comp. °C	-5 to 105.0
	Manual temp. comp. °C	-5 to 100
Cell constant		0.09 to 0.11, 0.25 to 2.5 x 0.01 adjustable
Cell calibration		0.45 to 0.50 or 0.80 to 1.20 with time period selectable from 1 to 999 days
Reference temperature	*°C*	20 or 25
Temperature coefficient		0.001 to 3.000%/°C linear
Memory		800 readings
Inputs		DIN, ATC
Power supply		4 x 1.5V AA alkaline batteries
Overall L x W x H	*mm*	172 x 80 x 37
Weight	*g*	300

*International Oceanographic Tables.



CU612-10

Portable Waterproof Meter Handylab LF12
As described. Supplied with 4-pole, K=1 conductivity cell, connection cable, 1.41mS/cm, 12.9mS/cm and 112mS/cm calibration solutions, sample beaker, batteries, instructions and carrying case.

CU612-10 Handylab LF12

Accessories and Spares

CU612-75 Spare probe, K=1
CU612-80 Rubber carry holster

CU612-85 RS232 cable and data acquisition software
BL610-15 Battery 1.5V (4 required)

Hand-held Conductivity Meters, FiveGo™

METTLER TOLEDO

- Compact design
- Conductivity, TDS or salinity ranges
- IP54 protection level housing against dust and water splashes
- Single point calibration with automatic recognition of 3 pre-defined standards
- 30 measurement memory
- Large, twin-line LCD readout
- Automatic linear temperature compensation from 0.00% to 10.00%/°C
- Educational version available with conductivity measurement only

Model		FG3	EL3
Ranges	*Conductivity*	0.1µS/cm to 199.9mS/cm	0.1µS/cm to 199.9mS/cm
	TDS	0.1mg/l to 199.9mg/l	—
	Salinity	0.00 to 19.99psu	—
	Temperature	0.0 to 100.0°C	—
Calibration		1-point, 3 pre-defined standards — both models	
Temperature compensation		Automatic, adjustable 0.0%/°C to 10.%/°C — both models	
Reference temperature		120 and 25°C selectable — both models	
Input		Mini-DIN — both models	
Power		4 x 1.5V AAA batteries — both models	
Overall W x D x H	*mm*	169 x 82 x 36	
Weight	*kg*	0.18 — both models	

As described. Supplied as a kit with electrode clip, wrist strap, instructions, batteries, conductivity probe with IP54 sealing caps, 2 x 1413µS/cm and 2 x 12.88mS/cm standard sachets. Alternatively available as a field kit which additionally includes a carrying case and 4 x 25ml sample bottles, or meter only with instructions and 4 x 1.5V batteries.

CU616-09 FG3-Kit industrial
CU616-12 EL3-Kit educational

CU616-15 FG3-Field industrial
CU616-18 EL3-Field educational

CU616-21 FG3-Basic industrial
CU616-24 EL3-Basic educational

Accessories and Spares

CU617-09 LE703 conductivity probe 10µS/cm to 500mS/cm
CU617-14 Temperature sensor NTC 30KOhm
BL610-08 1.5V AAA battery (4 required)



CU616-09



CU616-12

Bench Meters Series 4500

JENWAY

- Model 4510: General purpose conductivity/TDS/temperature meter for routine laboratory analysis.
  - — Custom back-lit LCD with simultaneous conductivity or TDS and temperature readout
  - — 32 reading memory
- Model 4520: Extensively specified conductivity/resistivity/TDS/salinity/temperature meter with GLP support, 1, 2 or 3 point calibration and datalogging
  - — Back-lit graphics dual parameter display
  - — 500 reading memory
- Automatic temperature compensation
- Bi-directional RS232 link to printer or PC (Model 4520 additionally incorporates an infra-red data link output)
- Simultaneous conductivity and temperature display

Catalogue No.		***CU645-30***	***CU650-30***
Model		4510	4520
Ranges (resolution)			
	Conductivity	0 to 199.9mS (0.01µS to 0.1mS) 0 to 1999mS (1mS*)	0 to 1999mS (0.001µS to 1mS*) 0 to 19.99S (0.01S)
	TDS	0 to 199.9g/l (0.01mg/l to 0.1g/l) 0 to 1999g/l (1g/l*)	0 to 1999g/l (0.001mg/l to 1g/l*) —
	Resistivity	—	0 to 20MOhm (0.01)
	Salinity	—	0 to 99.9g/l (0.1)
	Temperature	–10 to 105°C (+14 to 221°F)	–10 to 105°C (0.1°C) (+14 to 221°F)
ATC range (manual also)		0 to 100°C (+32 to +212°F)	0 to 100°C (+32 to +212°F)
Accuracy	*Conductivity*	±0.5% ±2 digits	±0.5% ±2 digits
	TDS	±0.5% ±2 digits	±0.5% ±2 digits
	Resistivity	—	±2% ±2 digits
	Salinity	—	±1g/l (0 to 35) ±3g/l (rest of range)
	Temperature	±0.5°C (±1°F)	±0.5°C (±1°F)
Calibration		On standard solutions 10µS, 1413µS,12.88mS or via cell constant adjustment	1, 2 or 3 point on standard solutions or via cell constant adjustment Adjustable calibration reminder settable from 1 to 999 hour intervals
Memory		32 readings	500 readings
Outputs		Analogue recorder Bi-directional RS232	Analogue recorder Bi-directional RS232 Infra-red data link (IrDA)
Alarm points		—	0 to 19.99S
Display		LCD	LCD graphics
Dimensions L x W x D	*mm*	210 x 250 x 55	210 x 250 x 55
Weight	*kg*	0.85	0.85

*Only with cell constants >5.

Conductivity Meter Model 4510
As described. Supplied with swing-arm electrode holder and glass conductivity cell (K=1) with automatic temperature compensation, instruction manual and mains adapter. A 230V 50Hz supply is required for the adapter.

CU645-30 Model 4510

Conductivity Meter Model 4520
As described. Supplied with swing-arm electrode holder and glass conductivity cell (K=1) with automatic temperature compensation, instruction manual and mains adapter. A 230V 50Hz supply is required for the adapter.

CU650-30 Model 4520

Spares and Accessories

CU652-06 Spare cell (K=1), glass
CU654-10 Accessory cell (K=0.1), glass
CU654-13 Accessory cell (K=10), epoxy
CU654-16 Accessory cell (K=1), epoxy
CU654-19 Accessory cell (K=0.1), epoxy
CU656-25 IrDA or serial connection printer. Supplied with one roll of thermal paper, serial connection lead, power supply and power connection lead
CU656-27 Thermal paper roll, pack of 1
CU656-54 DataWay data acquisition software for downloading data from instruments onto the users' PC.

Calibration Standards
Supplied in 500ml bottles

CU658-05 10µS standard
CU658-08 1413µS standard
CU658-11 12.88mS standard



CU645-30 in use



CU650-30 in use

Conductivity/pH meter Model 3540

JENWAY

- Backlit LCD graphics readout with five, separately tabbed menu screens accessible to display pH and conductivity parameters, instrument set-up and logged results (pH and conductivity simultaneously displayed). The conductivity display can alternatively output Resistivity, Salinity or TDS values
- Ultra-pure water function enables the ideal temperature compensation algorithm for low range measurement to be selected
- Datalogging storage of up to 250 pH and conductivity readings (manual or time-triggered), with display call-up or output via RS232
- Comprehensive GLP functionality

	Ranges	Resolution
Conductivity (autoranging)	0.01µS to 1.999S*	0.001µS to 1mS
pH	–2.000 to 20.000	0.001/0.01/0.1
mV	–1999.9 to +1999.9	0.1
Temperature	–10 to 105°C (14 to 221°F)	0.1°C (1°F)
Salinity (NaCl) ppm	0 to 99.9	0.1
Input impedance ohms	$>10^{12}$	
Calibration	1, 2 or 3 point using NIST, DIN, JIS or custom values	
Temp. comp. (2 inputs)	0 to 100°C (32 to 212°F), manual or automatic	
Outputs	Bi-directional RS232, analogue recorder, Hi/Lo alarm outputs	
Datalogging readings	250 (pH and conductivity) via manual, timed, stability or alarm level trigger	
GLP functions	Time/date clock, calibration reminder (1 to 999 hours) operator/sample ID, security coded set-up of user options	
Dimensions H x W x D mm	55 x 210 x 250	
Weight kg	0.85	

*Up to 19.99S maximum range available using accessory K=10 probe CU654-13.

Conductivity/pH meter Jenway 3540
As described. Supplied with glass bodied combination pH electrode, separate ATC probe, glass conductivity cell (K=1) with built-in ATC, electrode stand and swing-arm holder, BNC shorting plug, pH4, pH7 and pH10 buffer sachets, instructions and 9V a.c. mains adapter requiring a 230V 50Hz supply.

CU660-20 Model 3540

Spares and Accessories

CU652-06 Spare cell (K=1), glass
CU654-13 Accessory cell (K=10), epoxy
PJ554-08 Spare pH electrode, glass
PJ554-19 Spare ATC probe, glass
CU656-25 IrDA or serial connection printer
CU656-27 Thermal paper roll, pk 1

Pocket Salt Meter, Cardy SALT

Horiba

Ultra-slim, pocket meter for convenient salt testing with applications in the food, industrial and healthcare sectors.

- Flat sensor requires minimal maintenance and is replaceable, only a drop of sample is required for measurement
- Clear LCD readout gives direct NaCl reading
- Does not require pH adjustment or manual conversion from sodium ion measurement
- Excellent correlation with flame photometric method

Catalogue No.	***PJ285-40***
Model	Cardy SALT
Range %NaCl (w/w)	0.1 to 25
Resolution %NaCl (w/w)	0.01 (0.1 to 0.99) 0.1 (1.0 to 9.9) 1.0 (10 to 25)
Calibration	2-point using standard calibration solutions (0.5% and 5% NaCl) and STD/SLOPE adjustment trimmers
Sample temp. range °C	+5 to +35
Power	2 x 3V CR2025 batteries
Overall L x W x D mm	95 x 55 x 9
Weight g	40

Pocket Salt Meter, Cardy SALT, Horiba
As described. Supplied with calibration solutions (0.5% and 5% NaCl), sample dropper, deionised water and sampling "soak tape", instructions and batteries.

PJ285-40 Cardy SALT

Spares

PJ284-03 Spare sensor for PJ285-40
BL590-20 Spare battery, 3V (two required)



CU660-20



PJ285

Conductivity Meters, LAQUA DS-series

Horiba

- Model DS-71: Benchtop conductivity, resistivity, salinity/TDS meter for routine laboratory analysis.
  - — Large, custom, backlit LCD and membrane keypad operation
  - — 999 reading memory
- Model DS-72: High specification conductivity/resistivity/salinity/TDS meter with touchscreen operation, colour LCD readout, numeric, graphical or analogue display selectable, USP/EP/JP/CP standards support, analogue USB printer/PC and flash memory extension outputs.
  - — 2000 reading memory
  - — GLP function and validation facility with on-board operator navigation and guidance
  - — Multiple operating languages: Japanese, English, Chinese, Korean
- Automatic temperature compensation
- Simultaneous reading and temperature display
- Supplied with probe stand and 360° rotating, swing-arm clamp

Catalogue No.			***CU662-20***	***CU662-40***
Model			DS-71	DS-72
Ranges (resolution)				
	Conductivity,	*K = 0.1*	0.0µS to 1.999S — both models	
		K = 1	0.000mS to 119.99S — both models	
		K = 10	0.00mS to 199.9S — both models	
	TDS		0.01mg/l to 100g/l (0.01mg/l)	0.01mg/l to 1000g/l (0.01mg/l)
	Resistivity,	*K = 0.1*	0 to 1.999MOhm (0.0001 MOhm) — both models	
		K = 1	0 to 19.99kOhm (0.01kOhm) — both models	
		K = 10	0 to 199.9kOhm (0.1kOhm) — both models	
	Salinity		0 to 80.00ppt (0.01ppt) — both models	
	Temperature,	*ATC*	0 to 100.0°C (0.1°C) — both models	
		Display	-30 to 130.0°C (0.1°C) — both models	
Accuracy		*Conductivity*	±0.5% ±1 digit of F.S. — both models	
		Resistivity	±0.5% ±1 digit of F.S. — both models	
		Temperature	±0.1°C ±1 digit — both models	
Calibration			1 point on standard solutions — both models	
Memory			999 readings	2000 readings
Display			Monochrome, backlit LCD	Colour graphics LCD
Outputs			USB/RS232 printer ports	Analogue output, USB/RS232 printer PC ports, USB flash drive memory expansion port
Dimensions	*W x D x H mm*		170 x 174 x 73 — both models	
Weight		*kg*	0.5	0.7

Conductivity Meters, LAQUA DS-series

As described. Supplied with K = 1 conductivity probe, swing-arm probe holder, stand and a.c. adapter for 100-240V 50/60Hz single phase supplies.

CU662-20 DS-71
CU662-40 DS-72

Accessories and spares

CU662-72 Accessory K = 0.1 conductivity probe
CU662-75 Spare K = 1 conductivity probe
CU662-79 Accessory K = 10 conductivity probe
CU662-81 USB cable to connect meter to the users's PC

CU662-83 Impact printer, 230V 50/60Hz. Requires CU662-89 for connection to meter
CU662-86 Printer paper rolls, pack of 20
CU662-88 Ink ribbons, pack of 5
CU662-89 Printer cable to connect CU662-83 to meters. 1.5m long



CU662-20



CU662-40

Bench Conductivity Meters, FiveEasy™ / FiveEasy Plus™

METTLER TOLEDO

Basic, simple bench conductivity meters for routine measurement in industrial or education applications.

- Simultaneous display of measurement, temperature and end-point recording
- Single-point calibration with automatic recognition of 3 pre-defined standards
- Automatic linear temperature compensation from 0.0%/°C to 10.0%/°C and selectable reference temperature
- Easy set-up using navigation keys and intuitive display icons
- Large, twin-line LCD readout
- Educational versions available with conductivity range only and analogue output
- FiveEasy Plus™ FEP30 models also include the following additional features:
  - — RS232 interface for data transfer to the user's PC
  - — Data storage memory of 99 measurements

Model		FE30	FEP30	EL30
Ranges	*Conductivity*	0.1µS/cm to 199.9mS/cm — both models		0.1µS/cm to 199.9mS/cm
	TDS	0.1mg/l to 199.9mg/l — both models		—
	Salinity	0.00 to 19.99psu — both models		—
	Temperature	0.0 to 100.0°C — both models		0.0 to 100.0°C
Calibration		1-point, 3 pre-defined standards — all models		
Temperature compensation		Automatic, adjustable 0.0%/°C to 10.%/°C — all models		
Reference temperature		120 and 25°C selectable — all models		
Memory storage		—	99 measurements	—
Interface		—	RS232	—
Input		Mini-DIN — all models		
Power		a.c. adapter requiring a 100-240V 50/60Hz supply — all models		
Overall W x D x H	*mm*	200 x 175 x 52 — all models		
Weight	*kg*	0.6 — all models		

As described. Supplied as a kit with conductivity probe, probe arm, 2 x 1413µS/cm and 2 x 12.88mS/cm standard sachets, power adapter and instructions. Alternatively the meter can be supplied on its own with power adapter and instructions only.

CU665-20 FE30-Kit industrial
CU665-22 FEP30-Kit industrial
CU665-40 EL30-Kit educational

CU665-55 FE30-Basic industrial
CU665-57 FEP30-Basic industrial
CU665-75 EL30-Basic educational

Accessories and Spares

CU617-09 LE703 conductivity probe 10µS/cm to 500mS/cm
CU667-34 Electrode arm



CU665-40 in use



CU665-55

Bench Conductivity Meters, Lab Series

SI Analytics

High accuracy bench meters for routine and advanced research applications in education and industry.

- Contemporary design
- Large, twin-line LCD readout of conductivity, TDS or salinity measurement and temperature
- Advanced measuring algorithm allows faster readings using Schott Instruments measuring cells
- CalClock indicator shows both current calibration quality and analogue countdown display to the next calibration
- Model Lab 970 incorporates "wireless" cell recognition of respective Schott Instruments cells to enhance Quality Control operations by matching calibration routine to sensor and minimising measurement errors
- Snap-on sensor stand fixes rigidly to the meter without using screws or clips
- Model Lab 960 supports all GLP requirements and has an 800-record memory

Model		Lab 960	Lab 970
Range x resolution	*conductivity*	0.000µS/cm to 500mS/cm — both models	
	TDS	Adjustable factor 0.4 to 1.0 — both models	
	salinity	Acc. to Natural Sea Water Scale (UNESCO 1960b) — both models	
	°C	-5.0 to +120.0 (0.1) — both models	
Temp. compensation		-5.0 to +120.0°C, automatic or manual, with automatic switch to manual input if no sensor connected — both models	
Calibration		Calibrated cell constant (0.450 to 0.500; 0.585 to 0.715; 0.800 to 1.200cm^{-1} — both models	
Cell constant	*adjustable*	0.250 to 2.500cm^{-1}, 0.090 to 0.110cm^{-1} — both models	
	fixed	0.010cm^{-1} — both models	
Outputs		RS232, USB — both models	
Memories		800 records	—
Power		4 x 1.5V AA batteries or universal voltage a.c. adapter for 100-240V 50/60Hz single phase supplies — both models	
Overall W x D x H	*mm*	240 x 190 x 80	
Weight	*kg*	3.5	

Conductivity Meters, Lab Series

As described. Supplied with K=0.65 conductivity cell (with wireless recognition - Model LAB970 only), calibration solution (0.1mol/l KCL), sensor stand and universal voltage a.c. adapter for 100-240V 50/60Hz single phase supplies.

CU680-10 Lab 960
CU680-30 Lab 970

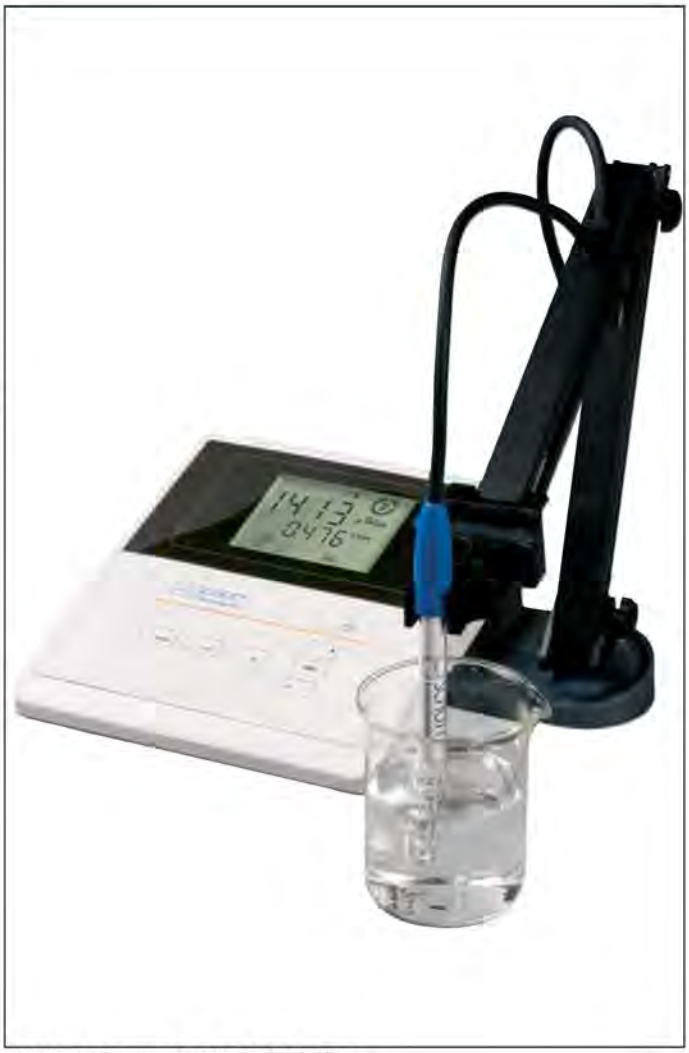
Spares and Accessories

CU683-03 Spare K=0.65 conductivity cell for CU680-10 only
CU683-06 Spare K=0.65 conductivity cell (with wireless recognition for CU680-30 only
BL610-15 Battery, 1.5V (4 required)

Calibration Solutions

20ml capacity, double-ended glass ampoules, steam sterilised and without preservative to extend solution shelf-life. The ampoules are scored at the tip of either end for ease of opening without tools. Supplied in packs of 18 ampoules.

CU612-90 0.01mol/KCL (1.41mS/cm)
CU612-94 0.1mol/KCL (12.9mS/cm)



CU680-30 in use, CU680-10 is similar

Cork Products, Cotton Wool

Cork

Corks, tapered
Dimension given is the small end diameter. Pack quantities are approximate.

	Dia. mm	*Pack qty.*
CW300-06	6	250
CW300-08	8	250
CW300-10	10	225
CW300-12	12	150
CW300-14	14	150
CW300-16	16	110
CW300-18	18	80
CW300-19	19	60
CW300-22	22	50
CW300-25	25	30
CW300-29	29	30
CW300-32	32	25
CW300-35	35	20
CW300-38	38	18
CW300-42	42	13
CW300-45	45	12
CW300-48	48	10
CW300-50	50	10
CW300-70	Assorted	150

Cork Rings, compressed
For supporting round bodied flasks. Depth as indicated. Supplied singly.

	o.d. x i.d. mm	*For flasks ml*
35mm deep		
CW308-08	80 x 30	25 to 150
CW308-12	110 x 60	250, 500
CW308-16	140 x 90	1000
CW308-20	170 x 120	2000, 3000
CW308-24	210 x 150	4000, 5000
45mm deep		
CW309-30	240 x 200	4000 to 10000

Cork Borer Sets
Nickel plated brass. Each set complete with push rod for cleaning.

	Sets of	*i.d. mm*
CW320-06	6	4.1 to 10.3
CW320-12	12	4.1 to 17.8
CW320-18	18	4.1 to 25.3

Cork Borer Sharpener
Suitable for all borers CW320 series.
CW325-10 Sharpener

Cotton Wool

For cleaning and plugging.

Non Absorbent
In rolls of 500g.
CW500-10 White

Absorbent
Hospital Quality in rolls of 500g.
CW505-10 White

Alternative Cleaning and Sealing Materials – *see Cleaning and Sealing sections.*

Rubber Stoppers
To BS2775. In Natural, Neoprene and Silicone Rubbers. Each stopper has a moulded-in number, corresponding to the measurement of the bottom diameter in millimetres. Sizes from 3 to 105mm. 1- and 2-hole versions available in natural rubber.

– see SW600/SW684 series in the Stopper section.

Stoppers, Steristoppers
Preformed cellulose plugs for sealing culture tubes and flasks. They are permeable to air and can be hot air sterilised up to 200°C. All stoppers are tapered and the cellulose material will depress slightly to ensure a tight fit into the tube or neck. Length varies from approximately 30 to 60mm according to size.

– see SW536 series in the Stopper section.


CW300


CW308/CW309


CW325


CW320


CW500,CW505 is similar

Counters

Tally/Totalising

Simple to use manually operated counters with a wide range of applications including:

- Bacteria colony counting
- Particle counting
- Biology population studies
- Gemstone counting
- Parts counting

Tally Counter, lever action
Hand held 4-digit counter up to 9999, push lever and manual reset in chrome case.

CW608-10 Tally counter, lever action

Tally Counters, push button action
4-digit counter up to 9999, thumb push button and manual reset. Available as either hand held with retaining cord or with bracket and clip for bench mounting.

CW610-10 Hand held
CW610-20 Bench mounting

Tally Counters, multiple bank
All counters register to 4-digits and have individual push buttons. The lever resets all counters to zero simultaneously.

CW620-20 2-bank
CW620-30 3-bank
CW620-40 4-bank

Totalising Counters, multiple bank
Bench mounting. In anodised aluminium case with coloured keys. Each counter window shows three digits and above each window is provision for labelling. When any key is pressed its corresponding count increases by one and the overall total count increases by one. The counter locks at a total count of 100 so that each window displays percentage values. For counting beyond 100 a press button is provided to release the lock. Side knobs are provided to reset to zero.

6-unit counter (5 counting plus totaliser). Overall 225 x 70 x 30mm.

CW650-10 6-unit

9-unit counter (8 counting plus totaliser). Overall 300 x 70 x 30mm.

CW650-20 9-unit

Colony, Revolution

Colony Counters For counting bacterial colonies. Hand-held or bench mounting models – *see CR270/CR315 series in Colony Counter section.*

Blood cell counting chambers – *see CM175/CM180 in Clinical section.*

Counting slides for use with light microscopes – *see ML200/ML250 in Microscopy section.*

Parts counting balances and scales – *see Balance section.*

Revolution Counters for measuring speed of rotating equipment, digital reading, hand-held – *see TA870 in Tachometer section.*



CW608-10



CW620-40



CW610-10



CW650-10, CW650-20 is similar

Crucibles

Glass

All dimensions and capacities for crucibles are nominal.

Pyrex Glass

Gooch pattern with sintered disc for analytical work where precipitates have to be dried to constant mass at 110°C. The crucibles can be placed directly into an oven up to 150°C and then left to cool in a desiccator.

	Ref.	*Porosity*
20mm disc; height 45mm, capacity 10ml		
CX100-10	3650/02M	1
30mm disc; height 53mm, capacity 30ml		
CX102-10	3660/02M	1
CX102-20	3660/04M	2
CX102-30	3660/06M	3
CX102-40	3660/08M	4
CX102-50	3660/10M	5
40mm disc; height 65mm, capacity 60ml		
CX104-10	3680/02M	1
CX104-20	3680/04M	2
CX104-30	3680/06M	3
CX104-40	3680/08M	4
CX104-50	3680/10M	5

Adapter Funnels, Pyrex

For Gooch crucibles. Stem o.d. 9mm, length 75mm. Dimensions given are open end i.d. x height excluding stem. Require rubber adapter to mount the crucible.

	Ref.	*For disc dia. mm*	*Dia. x ht. mm*
CX120-20	3690/02M	20	30 x 60
CX120-30	3690/04M	30	40 x 68
CX120-40	3690/08M	40	47 x 78



CX104 with CX120 and CX125 in use

Rubber Cones

For filter crucibles. Dimensions given are large end x small end i.d.

	Dimensions mm
CX125-14	20 x 14
CX125-18	27 x 18
CX125-24	33 x 24
CX125-27	42 x 27

Rubber Cones, Guko

Natural rubber. For filter crucibles and funnels to seal into Buchner flasks. Supplied in a set of eight with dimensions in mm.

Top o.d.	*Bottom o.d.*	*Height*	*Thickness*
21	12	18	2.5
27	17	20	3
33	21	24	3
41	27.5	27	4
53	33	34	5
68	48	35	5.5
78	58	35	6
89	66	40	6.5

CX127-10 Guko set

Spare Guko Cones

Supplied singly.

	Top o.d. mm
CX127-14	21
CX127-16	27
CX127-18	33
CX127-20	41
CX127-22	53
CX127-24	68
CX127-26	78
CX127-28	89

Drying ovens - see Ovens section.
Quickfit filtration funnels - see Quickfit section.
Sintered discs - see Filtration section.



CX127-10

Crucibles

Metal

Nickel
Without lid.

	Dia. x ht. mm	Cap. ml
CX200-25	25 x 25	10
CX200-30	30 x 30	15
CX200-35	35 x 35	25
CX200-40	40 x 40	30
CX200-50	50 x 50	70
CX200-60	60 x 60	130

Accessory lids for CX200- crucibles
Nickel, peak form.

	For crucible
CX202-25	CX200-25
CX202-30	CX200-30
CX202-35	CX200-35
CX202-40	CX200-40
CX202-50	CX200-50
CX202-60	CX200-60

Platinum (97%) - Iridium (3%)
Without lid. Weight given is approximate.

	Dia. x ht. mm	Cap. ml	Weight g
CX240-27	35 x 37	25	21
CX240-32	35 x 40	30	25
CX240-43	40 x 45	40	30

Zirconium
Without lid.

	Dia. x ht. mm	Cap. ml
CX250-10	25 x 25	10
CX250-13	30 x 25	15
CX250-16	35 x 30	25
CX250-19	38 x 38	30
CX250-22	40 x 40	35
CX250-25	45 x 38	40
CX250-28	45 x 39	45
CX250-31	45 x 40	50
CX250-38	48 x 45	70

Accessory lids for CX250- crucibles
Zirconium.

	For crucible
CX252-11	CX250-10
CX252-15	CX250-13
CX252-19	CX250-16
CX252-23	CX250-19
CX252-27	CX250-22
CX252-36	CX250-28
CX252-42	CX250-31 and CX250-38

Porcelain

Porcelain Crucibles
All dimensions and capacities are nominal. Diameter given is at the rim. Maximum operating temperature 1000°C.

	Dia. x ht. mm	Cap. ml
Low Form without lid		
CX348-12	30 x 19	6
CX348-16	35 x 22	11
CX348-22	40 x 25	15
CX348-27	45 x 28	25
CX348-33	60 x 38	50
CX348-36	70 x 44	85
Medium Form without lid		
CX357-12	25 x 20	5
CX357-16	30 x 25	10
CX357-22	35 x 28	15
CX357-26	40 x 32	20
CX357-36	50 x 40	49
CX357-48	63 x 55	100
Gooch Form without lid		
CX400-48	35 x 40	25
CX400-60	41 x 43	35

Crucible Lids

	For crucibles CX348	CX357	CX400
CX415-22	—	-12	—
CX415-28	-12	-16	—
CX415-34	-16	-22	-48
CX415-37	-22	-26	—
CX415-40	-27	—	-60
CX415-43	—	-36	—
CX415-52	-33	—	—
CX415-58	—	-48	—
CX415-64	-36	—	—



CX200 with CX202



CX250 with CX252





CX240 in use

Alumina Ceramic Crucibles

99.7% Al_2O_3, density 3.922g/cm^3, hardness 9 (Mohs scale). Can be used up to 1700°C, with excellent chemical resistance and mechanical strength. All dimensions and capacities are nominal. Without lid.

	Dia. x ht. mm	*Cap. ml*
Conical Form		
CX300-12	27 x 35	7
CX300-15	32 x 32	10
CX300-19	33 x 44	20
CX300-23	46 x 53	50
CX300-27	55 x 64	90
CX300-28	64 x 86	100
CX300-31	60 x 70	120
Tall Form		
CX304-15	30 x 31	10
CX304-19	40 x 35	20
CX304-26	60 x 62	100
CX304-35	80 x 94	250
CX304-40	96 x 116	500
Cylindrical Form		
CX308-10	23 x 22	5
CX308-14	28.5 x 15	5
CX308-19	31 x 40	20
CX308-23	42 x 58	50
CX308-25	40 x 92	80
CX308-28	46 x 82	100
CX308-32	64 x 80	225
CX308-47	90 x 150	750
CX308-50	100 x 172	1000

Notes on the care and use of Alumina Products

Alumina products are fragile, please avoid impacts during handling to prevent micro-cracks at the surface. Products with any micro-cracks should not be used.

Alumina should also be kept completely free of moisture and, if drying, please ensure that the temperature in the drying oven is increased slowly. Alumina is sensitive to thermal shock. Do not use alumina crucibles over naked flames, such as that from a bunsen burner - crucibles must be heated evenly using a furnace, oven etc.

Avoid overloading of crucibles to prevent uneven heating and ensure that the furnace chamber temperature increases gradually to prevent thermal shock (a rate of 150°C per hour for the first 1 to 1.5 hours is recommended, with maximum temperature achieved after 3 hours). When cooling, lower the temperature as gradually as possible. The cooling down rate is often half of the heating rate. If removing the crucibles from the furnace into room temperature to pour melted material, try to keep the process as short as possible. Once removed, avoid placing crucibles on any cold surfaces.



CX300/CX304/CX308

Silica

Silica Crucibles and Capsules

99.8% SiO_2. Can be used up to 1050°C continuously and 1300°C for short periods. Inert to most substances except alkalies and some metallic oxides. All products are glazed and translucent. All dimensions and capacities are nominal.

Low Form Crucibles without lid

	Dia. x ht. mm	*Cap. ml*
CX505-10	29 X 19	5
CX505-14	38 x 19	10
CX505-18	41 x 25	15
CX505-22	47 x 28	25
CX505-26	57 x 37	50
CX505-30	67 x 45	80
CX505-34	82 x 51	150

Lids for Low Form Crucibles CX505 only.

	For crucibles
CX507-10	CX505-10
CX507-14	CX505-14
CX507-18	CX505-18
CX507-22	CX505-22
CX507-26	CX505-26
CX507-30	CX505-30
CX507-34	CX505-34

Tall Form Crucibles without lid

	Dia. x ht. mm	*Cap. ml*
CX515-14	35 x 38	20
CX515-18	43 x 39	30
CX515-22	51 x 51	50
CX515-26	76 x 81	200

Lids for Tall Form Crucibles CX515 only

	For crucibles
CX517-14	CX515-14
CX517-18	CX515-18
CX517-22	CX515-22
CX517-26	CX515-26

	Dia. x ht. mm	*Cap. ml*
Broad Base Crucibles without lid		
CX522-18	41 x 24	15
CX522-22	48 x 27	25
CX522-26	57 x 37	40
Circular Capsules without lid		
CX532-10	40 x 15	10
CX532-14	48 x 15	20
CX532-26	56 x 28	45
CX532-34	75 x 28	80

Rectangular Capsules, without lid

	L x W x H mm	*Cap. ml*
CX552-10	60 x 28 x 12	10
CX552-18	52 x 42 x 18	25

Crucibles, coking

CX582-10 25 x 38mm, with projections
CX582-15 25 x 38mm, plain
CX582-50 Lid for CX582- coking crucibles
CX582-55 Plunger for CX582- coking crucibles



Portable Liquid Nitrogen Refrigerators

MVE SC/XC series

Designed for the storage of biological specimens in straws or ampoules, when charged with liquid nitrogen.

- Lightweight, toughened aluminium construction
- High efficiency insulated vacuum system
- Inner canisters provided to hold 0.5ml straws, or 1.2ml/2ml vials in canes

Model		SC11/7	SC20/20	SC33/26	SC36/32	XC MILL.20	XC22/5	XC43/28	XC47/11-6
Capacity	*litres*	11.0	20.5	33.0	36.5	20.5	22.4	42.2	47.4
	0.5ml straws (canes)	540	540	540	540	720	2520	1260	4500
	0.5ml straws (bulk)	732	780	780	780	1122	3666	1764	6216
	1.2/2ml vials	150	150	150	150	210	810	360	1320
Inner canisters supplied		6	6	6	6	6	6	6	6
Static evaporation rate, per day	*litres*	0.15	0.09	0.13	0.1	0.095	0.35	0.14	0.39
*Normal working duration**	*days*	46	142	182	224	140	40	193	76
Neck diameter	*mm*	51	51	51	51	55.4	97	70	127
Overall height x diameter	*mm*	549 x 260	652 x 368	657 x 464	690 x 464	652 x 368	559 x 368	670 x 508	673 x 508
Weight, empty	*kg*	7.7	11.8	15.4	15.4	10.5	11.8	16.4	19

*Arbitrary reference, to estimate performance under normal operating conditions.

Portable Liquid Nitrogen Refrigerators

As described. Supplied with inner canisters as indicated.

CX802-08 SC11/7
CX802-14 SC20/20
CX802-17 SC33/26
CX802-22 SC36/32
CX802-26 XC Millennium 20
CX802-31 XC22/5
CX802-33 XC43/28
CX802-39 XC47/11-6

Other refrigerator sizes, filling tubes and accessories are available - *details on request.*

Vials – *see TP445, TP453.*

Canes – *see TP453-60.*

Cryogloves – *see SA720.*



CX802 with accessories

Bulk Storage Liquid Nitrogen Refrigerators

CryoSystem Series, MVE
For high capacity storage of biological specimens in 1.2ml or 2ml vials within accessory boxes.

- Aluminium construction with high-efficiency construction
- Capacity from 61 litres to 175 litres
- Large diameter neck for easy access
- Supplied with racks:

Model		CS2000	CS4000	CS6000
Capacity	*litres*	61	121	175
Static evaporation rate, per day	*litres*	0.85	0.99	0.99
Normal working duration	*days*	38	70	104
*Racks supplied x rack capacity, boxes**		4 x 5	4 x 10	6 x 10
Overall height x diameter	*mm*	680 x 559	950 x 559	950 x 665
Weight, empty	*kg*	23	43	48

*Box size: 133 x 133 x 52mm high.

Bulk Storage Liquid Nitrogen Refrigerators
As described. Supplied with racks but without nitrogen charge, boxes or vials.

CX818-20 CS2000
CX818-40 CS4000
CX818-60 CS6000



CX818

Dry Shipper, MiniMoover

For transportation of biological samples and specimens at cryogenic temperatures when charged with liquid nitrogen. Lightweight, toughened aluminum casing and liner with sealed vacuum and insulation. An internal absorbent layer at the base of the liner prevents accidental spillage of liquid nitrogen during movement. Capacity 2.9 litres. Neck diameter 35mm. Static evaporation rate 0.2 litres per day. Supplied with carrying handle, neck plug and lock hasp. Overall 184 x 495mm diameter x height.

CX820-80 Dry Shipper, MiniMoover

Cryogenic boxes - *see TP453-45, TP458-02 to TP458-10.*

Vials - *see TP445, TP453.*

Canes - *see TP453-60.*

CX820-80



CryoVials/CryoCanes/CryoBoxes and Racks

NALGENE®

Cryovials
Polypropylene with polyethylene closure. Skirted and self-standing. With marking area and fill line. Sterilised by irradiation. Supplied in sleeves as indicated.

	Ref. 5000-	Cap. ml	Sleeve qty.
TP453-09	0012	1.2	25
TP453-12	0020	2	25
TP453-14	0050	5	10

Cryovials, System 100
Space saving design for use in system 100 CryoBox. Polypropylene with polyethylene closure. Skirted and self standing. With marking area and fill line. Sterilised by irradiation.

	Ref. 5000-	Cap. ml	Pack qty.
TP453-24	1012	1	500
TP453-27	1020	1.5	500

Full details of these products and a wide range of associated accessories will be found in the Tissue Culture Section of this catalogue.

CryoBoxes™
Polycarbonate. For ultra-low temperature storage of vials. Identification numbers on box and lid are keyed so that grid numbers match.

	Ref.	Array
TP453-40	5025-0505	5 x 5
TP453-45	5026-0909	9 x 9
TP453-47	5027-0909	9 x 9

CryoBox™, System 100
Polycarbonate. For ultra-low temperature storage of up to 100 x TP453-24/-27 vials. With matching identification numbers on box and lid in 10 x 10 grid array. Supplied singly.

	Ref.	Array
TP453-50	5026-1010	10 x 10

CryoCane™
Aluminium. Holds five cryovials for storage in Dewar-type liquid nitrogen freezers.

	Ref.
TP453-60	5015-0001

CryoSleeve™
Transparent PVC. For enclosing cane.

	Ref.
TP453-65	5016-0001

CryoBox Racks
Stainless steel.

For CryoBox TP453-40

Cat. No.	TP455-50	TP455-53
Shelves	4	9
TP455-50	Ref. 5035-0004	
TP455-53	Ref. 5035-0009	

For CryoBox TP453-45

Cat. No.	TP455-60	TP455-63
Shelves	4	9
TP455-60	Ref. 5036-0004	
TP455-63	Ref. 5036-0009	

For CryoBox TP453-47

Cat. No.	TP455-70	-73	-76
Shelves	2	4	7
TP455-70	Ref. 5037-0002		
TP455-73	Ref. 5037-0004		
TP455-76	Ref. 5037-0007		

Ice and dry ice carriers, Igloo – *see Ice section.*
Ultra-low freezers – *see RG410 series.*









Storage Boxes

Storage Boxes

Rigid cardboard, with drop on lid. Suitable for use at freezer temperatures down to -85˚C. Overall 133mm x 133mm W x D. Choice of height and colour, as indicated. Accessory grid dividers are available to accommodate a variety of tube sizes. Supplied singly.

	Box height, mm	*Colour*
TP458-02	50	White
TP458-04	50	Blue
TP458-06	50	Red
TP458-08	50	Green
TP458-10	50	Yellow
TP458-22	75	White
TP458-24	75	Blue
TP458-26	75	Red
TP458-28	75	Green
TP458-30	75	Yellow
TP458-42	100	White
TP458-44	100	Blue
TP458-46	100	Red
TP458-48	100	Green
TP458-50	100	Yellow



TP458 boxes

Accessory Grid Dividers for TP458-02 to TP458-50 boxes only

Plain white card. With compartments to hold tube sizes and to fit box heights as indicated. Supplied singly.

	Grid array mm	*To hold tubes,*	*For box height, mm*
TP458-61	7 x 7	16	50
TP458-63	8 x 8	14	50
TP458-65	9 x 9	13	50
TP458-67	10 x 10	12	50
TP458-71	7 x 7	16	75
TP458-73	8 x 8	14	75
TP458-75	9 x 9	13	75
TP458-77	10 x 10	12	75
TP458-81	7 x 7	16	100
TP458-83	8 x 8	14	100
TP458-85	9 x 9	13	100
TP458-87	10 x 10	12	100

Cryogenic Storage Boxes, Origami

Cardboard, with drop-on lid. Supplied flat packed for assembly by the user to reduce storage volume. Ingenious design ensures a rigid structure once assembled. Suitable for freezer temperatures down to -85˚C. Overall 134 x 134 x 50mm W x d x H, assembled. Accessory grid dividers are available to accommodate a variety of tube sizes. supplied in pack of 100 x bases and lids. dividers are supplied in packs of 36, with formats as indicated.

TP458-90 Origami cryogenic boxes, pack 100

Accessory Grid Dividers for TP458-90 boxes only

Supplied in packs of 36.

	Grid array	*To hold tubes, mm*
TP458-92	10 x 10	12
TP458-94	9 x 9	13
TP458-96	8 x 8	14
TP458-98	7 x 7	16

Labtop cooler

Comprises tube rack for 25 x 0.5ml or 36 x 1.5ml microtubes, mounted in a thermal case containing a cooling gel, and lid. In use the labtop cooler is placed in a -20˚C freezer for two hours. Once removed the gel will maintain samples below 4˚C on the bench for more than one hour. Supplied singly.

TP459-20 Labtop cooler

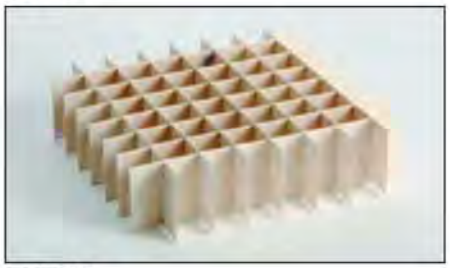
Microcentrifuge tubes - *see CF300 to CF306 series.*



TP458-08 with TP458-65 in use



TP458-90



TP458-96



TP459-20 in use

Dehydrated Culture Media

LAB

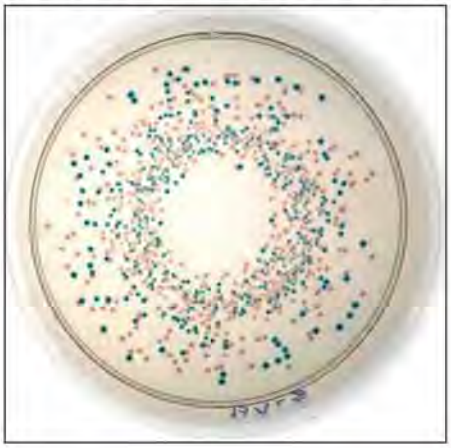
A comprehensive range of culture media for use in applications as indicated. Supplied in packs of 500g.

	Type	*Application(s)*	*Volume produced, litres*
CX900-02	Agar Bacteriological No. 1	High clarity agar suitable for all bacteriological purposes	—*
CX900-06	Baird-Parker Agar Base	Isolation and enumeration of coagulase-positive *Staphylococci*	7.6
CX900-10	Blood Agar Base No. 2	Rich agar base, which when supplemented with blood will isolate delicate cinical pathogens	12.7
CX900-14	Brain Heart Infusion Agar	General purpose, nutritious agar base	10.2
CX900-18	Brain Heart Infusion Broth	A rich isotonic infusion providing a wide range of substrates	13.5
CX900-22	Brilliant Green Agar, Kauffmann	Selective medium for the isolation of *Salmonellae* (except *S. typhi*)	9.6
CX900-30	Buffered Listeria Broth	Selective enrichment of food and environmental samples for *Listeria* spp.	10.6
CX900-34	Buffered Peptone Water	Pre-enrichment broth for the recovery of *Salmonellae* in foods to BS EN ISO 6579:2002	25.0
CX900-38	Campylobacter Blood-Free Sel. Agar Base	Blood-free medium that will support the growth of most enteric *Campylobacter* spp.	11.1
CX900-42	Columbia Agar Base	General purpose nutritious agar base that can be enriched with blood	12.2
CX900-46	Deoxycholate Citrate Agar (Hynes)	Leifson's original formulation for the isolation of *Salmonellae* spp. and *Shigella* spp.	11.0
CX900-50	Dextrose Tryptone Agar	Enumeration of thermophilic spore bearers in foods	18.5
CX900-58	Endo Agar	Enumeration of coliforms in water and dairy products - APHA recommended	12.2
CX900-62	Eosin Methylene Blue Agar (Levine)	Differentiation of enteric organisms	14.5
CX900-66	Fraser Broth	Enrichment broth for the isolation of *Listeria* spp.	9.0
CX900-70	Hektoen Enteric Agar	Recovery of *Shigella* spp. from clinical specimens	6.6
CX900-74	Hoyles Medium	Isolation and differentiation of *Corynebacterium diptheriae* types *gravis, mitus,* and *intermedius*	13.5
CX900-78	Kliglers Iron Agar	Differential medium for enteric pathogens	10.2
CX900-82	Lactose Broth	For presumptive identification of coliforms in water and dairy products	38.5
CX900-86	Listeria Broth	For selective enrichment of food and environmental samples for *Listeria* spp.	13.9
CX900-94	M.L.C.B. Agar	Selective medium for the isolation of *Salmonellae* (except *S. typhi* and *S. paratyhi* A)	10.2
CX902-03	M.R.S Agar	Cultivation and enumeration of *Lactobacillus* spp.	7.1
CX902-07	MacConkey Agar (Sorbitol)	Selective differential medium for the isolation of *Escherichia Coli* O157	10.3
CX902-11	MacConkey Agar (with salt)	Selective medium for the isolation of bile tolerant organisms	9.6
CX902-15	MacConkey Agar (without salt)	Differential medium for enteric bacteria	10.3
CX902-19	MacConkey Agar No. 3	For isolation of *Enterobacteriaceae* from water and sewage	9.7
CX902-23	MacConkey Broth Purple	For detection and enumeration of faecal coliforms	14.3
CX902-27	Malt Extract Agar	An acidic medium for the isolation of moulds and yeasts	10.0
CX902-31	Malt Extract Broth	Isolation of yeasts and moulds in sterility testing	25.0
CX902-35	Mannitol Salt Agar	Isolation of salt tolerant *Staphylococci*	4.6
CX902-39	Membrane Lauryl Sulphate Broth	Enumeration of coliform organisms in water	6.6
CX902-43	Milk Plate Count Agar	Enumeration of micro-organisms in dairy products	20.8
CX902-47	Modified T.S.B.. (for *E. coli* O157)	Selective enrichment medium for VTEC *Escherichia coli*	15.1
CX902-51	Mueller Hinton Agar II	Adopted by the NCCLS as the definitive method for susceptibility testing	13.2
CX902-55	Mueller Hinton Broth	For the NCCLS tube dilution technique when calculating antibiotic M.I.C values	23.8

*Depends on formulation required.

Additional media formulations are available - *details on request.*

continued on next page







Dehydrated Culture Media continued

LAB

Supplied in packs of 500g.

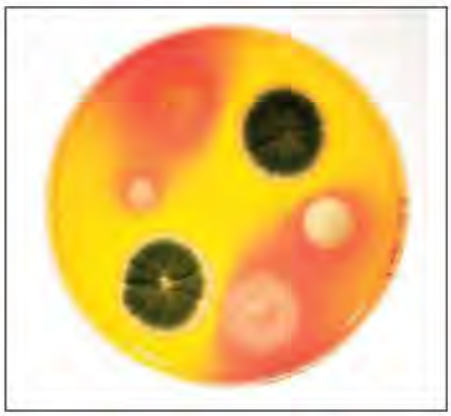
	Type	Application(s)	Volume produced, litres
CX902-59	Nutrient Agar	General purpose agar for the cultivation of micro-organisms	17.9
CX902-63	Nutrient Agar No. 2 BP	General purpose broth for the cultivation of micro-organisms	20.0
CX902-67	Peptone water, buffered	Pre-enrichment broth for the recovery of *Salmonellae* in foods	25.0
CX902-71	Plate Count Agar	For use with pour plate and surface inoculation techniques	24.4
CX902-75	Potato Dextrose Agar	Recommended by APHA for the enumeration of yeasts and moulds in foodstuffs	12.8
CX902-79	Proteose Peptone	Highly nutritious media suitable for fastidious organisms	—*
CX902-83	Pseudomonas CFC Agar	*Burkholderia cepacia* isolation medium	10.3
CX902-87	R2A Agar	Enumeration of heterotrophic bacteria in water	27.7
CX902-95	Reinforced Clostridial Agar	Enumeration of *Clostridium* spp. by the pour plate method	10.2
CX904-05	Reinforced Clostridial Media (RCM)	Recovery of low levels of Clostridium spp.	13.1
CX904-09	Rose Bengal Chloramphenicol Selective Media	Selective media for the enumeration of yeasts and moulds	17.5
CX904-13	Sabouraud Dextrose Agar	Selective medium for fungi and yeasts	8.1
CX904-17	Sabouraud Dextrose Liquid Medium	Liquid sterility test medium for the detection of yeasts and moulds	16.7
CX904-21	Sabouraud Maltose Agar	Selective medium for fungi and yeasts - recommended by the APHA	8.1
CX904-25	Sensitest Agar	Antibiotic suseptibility testing using the Joan Stokes technique	12.5
CX904-29	Simmons Citrate Agar	Differentiation of enteric bacteria	20.7
CX904-41	Standard Plate Count Agar APHA	For use with both pour plate and surface inoculation techniques - formulated to APHA specifications	21.2
CX904-45	TCBS Cholera Medium	Selective isolation of *Vibrio* spp.	5.7
CX904-49	Tetrathionate Broth Base	Selective enrichment broth for the growth of *Salmonellae*	10.9
CX904-53	Thioglycollate Medium (Brewer)	Sterility testing and cultivation of anaerobes	25.0
CX904-57	Triple Sugar Iron Agar	Differentiation of *Enterobacteriaceae*	7.7
CX904-61	Tryptone Soy Agar EP/USP/JP/BP	General purpose media that will support the growth of a wide range of organisms	13.5
CX904-65	Tryptone Soy Broth EP/USP/JP/BP	General purpose media that will support the growth of a wide range of organisms	18.2
CX904-69	Tryptone Water	Detection of indole from tryptophan	33.3
CX904-73	Urea Agar Base	Detection of urease-producing micro-organisms (Christensen's Urea Base)	23.8
CX904-77	Violet Red Bile (Glucose) Agar	Enumeration of *Enterobacteriaceae* in food and dairy products	13.0
CX904-81	Violet Red Bile (Lactose) Agar	Enumeration of *coliforms* in food and dairy products	13.0
CX904-85	W.L. Nutrient Agar	Enumeration of micro-organisms in the brewing process	6.7
CX904-89	Wort Agar	Enumeration of yeasts and moulds - can be modified for osmophilic conditions	10.0
CX904-93	XLD Agar	Selective isolation of *Shigella* spp. and *Salmonella* spp.	9.3
CX904-97	Yeast Extract Agar	Enumeration of micro-organisms in water and dairy products	21.7
CX904-99	Yersinia Selective Agar	Isolation and enumeration of *Yersinia* spp.	8.6

*Depends on formulation required.

Additional media formulations are available - *details on request.*







Microorganism Preservation System, Protect

Bead storage system for long-term maintenance of stock and quality control of microorganisms during cryopreservation.

- Frozen storage of fastidious and non-fastidious organisms
- Enables frequent uses to guarantee consistent and reliable performance control
- Each vial provides 20 subcultures, dramatically reducing cost per test against traditional methods
- CE marked and FDA approved for assured quality and traceability
- Gamma irradiated sterile to SAL10^{-6} for total product confidence

In use, a suspension of the organism is created using liquid included in the vial, which is then reintroduced into the vial and shaken with the beads to coat them. The liquid is then withdrawn with an accessory fine tip pasteur pipette and discarded. The coated beads can then be cryopreserved. Recovery is undertaken by aseptically removing a bead and rolling onto plated medium using an inoculating needle or placing in broth and incubating.

Microorganism Preservation System, Protect

As described, in packs of vials as indicated with mixed, matching, colour-coded beads and caps in blue, green, red, white and yellow.

CX925-10 Card box of 100 vials
CX925-15 Polypropylene box of 100 vials
CX925-45 Bulk pack of 1000 vials

Culture Media Sundries

Culture Media Inoculators

Disposable, single-ended, sterile polystyrene loops, needles and L-shaped spreaders for culture media inoculation. Gamma irradiated for sterility. Choice of inner sleeve quantity and supplied in outer packs as indicated.

	Description	*Inner sleeve qty.*	*Outer pack qty.*
CM676-10	10µl loop	20	1000
CM676-20	5µl loop	20	1000
CM676-30	1µl loop	20	1000
CM676-43	needle	20	1000
CM676-45	spreader	20	500
CM676-49	spreader	5	500

Polystyrene Disposable, Circular, Sterilin

Produced under sterile aseptic conditions. The 90mm dishes comply with BS611 Part 2 and are CE-marked in compliance with the In-vitro Directive 97/79/EC. Supplied in sleeves within partitioned cases as indicated for added protection during transit.

	Ref.	*Dia. x depth mm*		*Pack qty.*
PD100-10	121V	30 x 10	Triple vent	800
PD100-15	122	50 x 10	Single vent	700
PD100-20	124	50 x 18	Single vent	500
PD100-23	PF55	55 x 14	No vent	1620
PD100-27	PF55V	55 x 14	Four vents	1620
PD100-30	123	60 x 13	Single vent	540
PD100-40	101 R20	90 x 12	Single vent	500

Pasteur Pipettes, Sterile

PP474-41 Fine tip, 20µl drop size, 3ml capacity, pack of 1000

Bottles, Glass, Culture - *see BS150-/BS152-series*

Culture swabs - *see CM610-/CM615-/CM620-series.*

Culture tubes - *see TP250-series.*

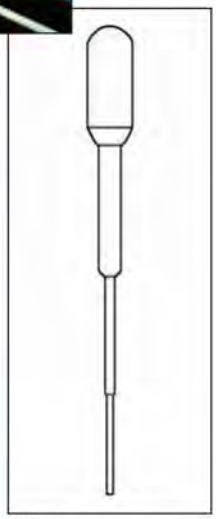


CX925-10, CX925-15 is similar

CM676



PD100



PP474

Glass with Spout, Class B

All cylinders comply with BS604, ISO4788 (and DIN 12680 where indicated).

Capacity ml	*Sub-divisions, ml*
5	0.1
10	0.2
25	0.5
50	1
100	1
250	2
500	5
1000	10
2000	20

Cylinders, MBL borosilicate

To DIN 12680, BS604, ISO4788. With spout and haxagonal glass foot. Blue enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*
CY105-10	CRC201	5
CY105-14	CRC202	10
CY105-18	CRC204	25
CY105-22	CRC206	50
CY105-26	CRC209	100
CY105-30	CRC211	250
CY105-34	CRC213	500
CY105-38	CRC214	1000
CY105-42	CRC216	2000

Cylinders, Pyrex borosilicate

With detachable plastic foot. White enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*
CY140-14	3205/04	10
CY140-18	3205/06	25
CY140-22	3205/08	50
CY140-26	3205/10	100
CY140-30	3205/12	250

Spare feet for CY140-series

	Ref.	*For cylinder ml*
CY144-14	4500/00	10
CY144-18	4500/01	25
CY144-22	4500/02	50
CY144-26	4500/04	100
CY144-30	4500/06	250

Cylinders, Pyrex borosilicate

To DIN 12680. With spout and hexagonal glass foot. White enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*
CY160-10	3200/02	5
CY160-14	3200/04	10
CY160-18	3200/06	25
CY160-22	3200/08	50
CY160-26	3200/10	100
CY160-30	3200/12	250
CY160-34	3200/14	500
CY160-38	3200/16	1000
CY160-42	3200/18	2000

Cylinders, Heavy Duty, Pyrex borosilicate

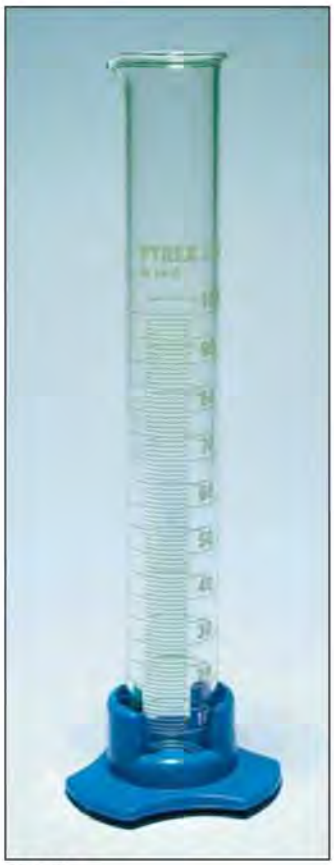
To DIN 12680. Heavy duty, with spout, reinforced rim, thick wall and robust hexagonal foot. Blue enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*
CY164-22	3280-50	50
CY164-26	3280-100	100
CY164-30	3280-250	250
CY164-34	3280-500	500
CY164-38	3280-1L	1000
CY164-42	3280-2L	2000

Class A cylinders with spout – *see next page.*



CY105



CY140



CY160



CY164

Glass with Spout, Class A

All cylinders comply with BS604, ISO4788 (and DIN 12680 where indicated).

Cylinders, Pyrex borosilicate
To DIN 12680. With spout and hexagonal glass foot. White enamel graduations and inscriptions. Class A Conformity Certified.

	Ref.	Cap. ml
CY165-10	3201/02	5
CY165-14	3201/04	10
CY165-18	3201/06	25
CY165-22	3201/08	50
CY165-26	3201/10	100
CY165-30	3201/12	250
CY165-34	3201/14	500
CY165-38	3201/16	1000
CY165-42	3201/18	2000

Cylinders, Pyrex borosilicate
To DIN 12680, BS604, ISO4788. With spout and hexagonal glass foot. White enamel graduations and inscriptions. Class A Conformity Certified and individually engraved with a serial number and supplied with works certificate..

	Ref.	Cap. ml
CY167-10	3201/02WC	5
CY167-14	3201/04WC	10
CY167-18	3201/06WC	25
CY167-22	3201/08WC	50
CY167-26	3201/10WC	100
CY167-30	3201/12WC	250
CY167-34	3201/14WC	500
CY167-38	3201/16WC	1000
CY167-42	3201/18WC	2000

Cylinders, Blaubrand®
To DIN EN ISO 4788. With spout and hexagonal foot. Graduations and inscriptions in highly contrasting blue enamel. Ring marked at the main points. Class A Conformity Certified.

	Cap. ml
Duran® borosilicate glass	
CY235-10	5
CY235-14	10
CY235-18	25
CY235-22	50
CY235-26	100
CY235-30	250
CY235-34	500
CY235-38	1000
CY235-42	2000*

* With circular foot.

Conformity Certified
Indicated by the symbol H shows that the product has been manufactured under quality control procedures according to Eichordnung the German Federal Weights and Measures Regulations.

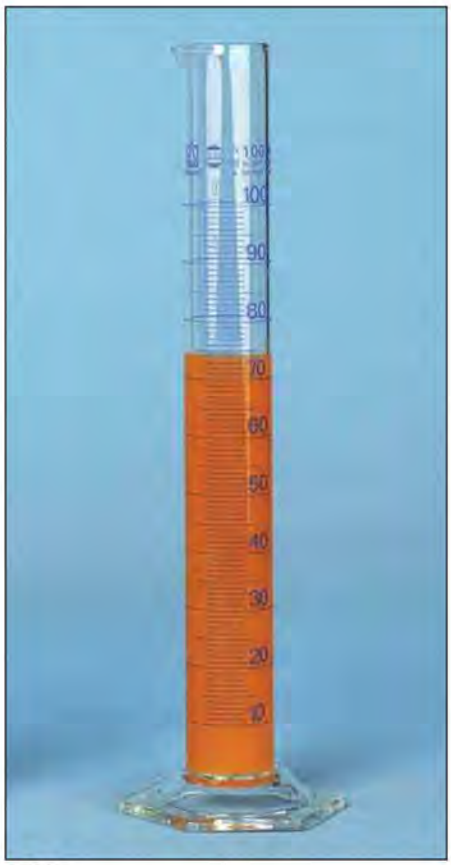
Provided the instrument is used with the recommended accessories and in accordance with the supplied instructions the manufacturer certifies conformity with annex 12 of the Eichordnung.



CY165



CY167



CY235

Glass with Stopper, Class B

All cylinders comply with BS604, ISO4788 (and DIN 12685 where indicated).

Cylinders, MBL borosilicate
To DIN 12685. With interchangeable polyethylene stopper and hexagonal glass foot. Blue enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*	*Stopper*
CY257-14	CRC302	10	10/19
CY257-18	CRC304	25	14/23
CY257-22	CRC306	50	19/26
CY257-26	CRC308	100	24/29
CY257-30	CRC310	250	29/32
CY257-34	CRC312	500	34/35
CY257-38	CRC314	1000	45/40
CY257-42	CRC316	2000	45/40

Cylinders, Pyrex borosilicate
With interchangeable polyethylene stopper and detachable plastic foot. White enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*	*Stopper*
CY260-18	3215/06	25	14/23
CY260-22	3215/08	50	19/26
CY260-26	3215/10	100	24/29
CY260-30	3215/12	250	29/32

Spare feet for CY260-series

	Ref.	*For cylinder ml*
CY144-18	4500/01	25
CY144-22	4500/02	50
CY144-26	4500/04	100
CY144-30	4500/06	250

continued on next page



CY257



CY260

Glass with Stopper, Class B continued

All cylinders comply with BS604, ISO4788 (and DIN 12680 or 12685 where indicated).

Cylinders, Pyrex borosilicate
To DIN 12680. With interchangeable hollow glass stopper and glass foot. White enamel graduations and inscriptions. Class B.

	Ref.	*Cap. ml*	*Stopper*
CY280-14	3211/04	10	10/19
CY280-18	3211/06	25	14/23
CY280-22	3211/08	50	19/26
CY280-24	3211/10	100	24/29
CY280-30	3211/12	250	29/32
CY280-34	3211/14	500	34/35
CY280-38	3211/16	1000	45/40
CY280-42	3211/18	2000	45/40

Glass with Stopper, Class A

Cylinders, Blaubrand®
To DIN EN ISO 4788. With hexagonal base and square grip polypropylene stopper (except -34 and -38 which are polyethylene). Duran glass. Graduations and inscriptions in highly contrasting blue enamel. Ring marked at the main points. Class A Conformity Certified.

	Cap. ml	*Stopper*
Duran® borosilicate glass		
CY334-14	10	10/19
CY334-18	25	14/23
CY334-22	50	19/26
CY334-26	100	24/29
CY334-30	250	29/32
CY334-34	500*	34/35
CY334-38	1000*	45/40

* Have octagonal stopper.

Spare stoppers – *see Stoppers section.*

Conformity Certified
Indicated by the symbol H shows that the product has been manufactured under quality control procedures according to Eichordnung the German Federal Weights and Measures Regulations.

Provided the instrument is used with the recommended accessories and in accordance with the supplied instructions the manufacturer certifies conformity with annex 12 of the Eichordnung.



CY280


CY334

Plastic with Spout, Class B

Azlon

Cylinders, P.M.P. (TPX)
To ISO6706:1981. Class B. Transparent, strong and lightweight. Can be used up to 121°C. Date stamped for traceability. With spout, hexagonal fixed base and a choice of moulded or blue printed graduations.

	Ref.	Cap. ml	Subdiv. ml
Moulded graduations			
CY600-14	CT0010P	10	0.2
CY600-18	CT0025P	25	0.5
CY600-22	CT0050P	50	1
CY600-26	CT0100P	100	1
CY600-30	CT0250P	250	2
CY600-34	CT0500P	500	5
CY600-38	CT1000P	1000	10
CY600-42	CT2000P	2000	20
Printed graduations			
CY605-14	CTB0010P	10	0.2
CY605-18	CTB0025P	25	0.5
CY605-22	CTB0050P	50	1
CY605-26	CTB0100P	100	1
CY605-30	CTB0250P	250	2
CY605-34	CTB0500P	500	5
CY605-38	CTB1000P	1000	10
CY605-42	CTB2000P	2000	20

Cylinders, polypropylene
To ISO6706:1981. Class B. Clear polypropylene, autoclavable to 121°C repeatedly, without loss of tolerance. Date stamped for traceability. With spout, hexagonal fixed base and a choice of moulded or blue printed graduations.

	Ref.	Cap. ml	Subdiv. ml
Moulded graduations			
CY614-14	CP0010P	10	0.2
CY614-18	CP0025P	25	0.5
CY614-22	CP0050P	50	1
CY614-26	CP0100P	100	1
CY614-30	CP0250P	250	2
CY614-34	CP0500P	500	5
CY614-38	CP1000P	1000	10
CY614-42	CP2000P	2000	20
Printed graduations			
CY618-14	CPB0010P	10	0.2
CY618-18	CPB0025P	25	0.5
CY618-22	CPB0050P	50	1
CY618-26	CPB0100P	100	1
CY618-30	CPB0250P	250	2
CY618-34	CPB0500P	500	5
CY618-38	CPB1000P	1000	10
CY618-42	CPB2000P	2000	20

Plastic measuring cylinders with spout, Class A – see *next page.*



CY600,CY614 are similar



CY618, CY605 are similar

Cylinders

Plastic with Spout, Class A

Azlon

- To DIN 12681 Class A tolerances
- Transparent PMP (TPX) with printed blue graduations
- Supplied with batch conformity certificate and individually serial numbered
- Remain in tolerance after repeated wash and autoclave (121°C) cycles
- Stable, hexagonal, fixed base with anti-suction feature

As described. With spout, hexagonal base and blue printed graduations. Supplied with batch conformity certificate in packs as indicated.

	Ref.	*Cap. ml*	*Sub-div. ml*	*Pack qty.*
CY625-14	CTA0010P	10	0.2	2
CY625-18	CTA0025P	25	0.5	2
CY625-22	CTA0050P	50	1	2
CY625-26	CTA0100P	100	1	2
CY625-30	CTA0250P	250	2	2
CY625-34	CTA0500P	500	5	2
CY625-38	CTA1000P	1000	10	2
CY625-42	CTA2000P	2000	20	1

Squat Cylinders, Azlon

Unclassified tolerances. Transparent polypropylene. With blue overpint moulded graduations. Typically 35% shorter and 20% wide than standard cylinders, giving increased stability on the bench and ease of handling in restricted places. Anti-suction base with drain hole to eliminate waste residue after machine washing. Supplied in packs as indicated.

	Ref. CPS-	*Ht. mm*	*Cap. ml*	*Sub-div. ml*	*Pack qty.*
CY640-26	0100P	160	100	2	5
CY640-30	0250P	190	250	5	1
CY640-34	0500P	215	500	10	1
CY640-38	1000P	282	1000	20	1

Glass Distillation Receiver BS658

Glass Distillation Receiver

Type 1 Crow pattern. Pyrex glass. Class B. 100ml capacity. To BS658.

	Ref.
CY750-10	3400/04

Condensers, Pyrex

With 13mm screwthread olives for hose connection.

	Type	*Effective length, mm*
DT980-20	Graham	250

Full details of these condensers are given in the *Distillation section.*

Flasks, Pyrex 1280/1290 series

Distillation. Side arm set at 75° to vertical axis and positioned to suit a 76mm partial immersion thermometer.

	Ref.	*Cap. ml*
General purpose		
FK525-35	1280/14	500
To ASTM E133		
FK527-26	1290/04	125*
FK527-30	1290/06	250

*The 125ml capacity complies with IP123.

Distillation Assembly – *see Petroleum section.*



CY625



CY640



CY750

Dairy Testing

Butyrometers, BS696
Glass with plain neck.

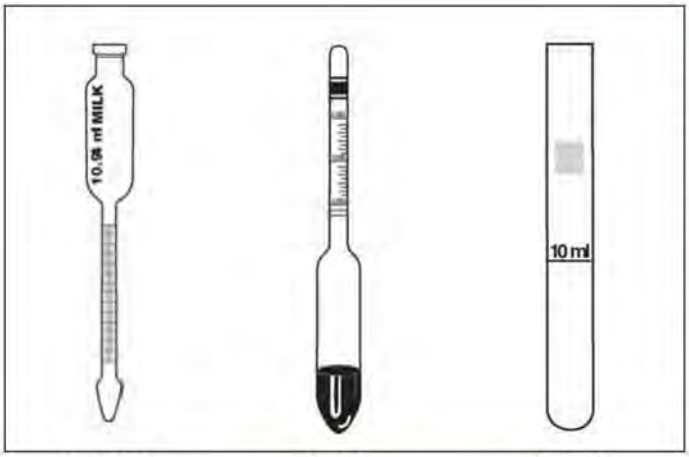
	Sample
DA150-10	10.94ml milk, 8%
DA150-15	10.94ml skim milk, 4%
DA150-20	5g cream, 70%
DA150-25	3g cheese, 40%
DA150-38	Lock stopper
DA150-42	Lock stopper key

Hydrometer, Lactometer
BS734. Range 1.025 to 1.035g/ml. Overall length approximately 230mm.
DA210-10 Lactometer

Reductase Tubes
Soda-lime. 150 x 16mm.

	Graduations at, ml
DA220-10	10
DA220-14	2.5 and 10
DA220-18	5 and 10
DA220-22	7 and 10

Sampling Dippers – *see BS216-35/BS216-40 in the Bottles section.*



DA150-10 *DA210* *DA220-10*



DA450-40

Gerber Centrifuges

Gerber Centrifuge, Universal
Highly flexible, easy to use, dairy testing centrifuge with push-button operation and LCD display.

- Speed range 200 to 1300rpm
- Four, pre-selectable, precisely monitored speeds for specific tests:
  - — Gerber fat test using butyrometers (350xg)
  - — Solubility index test in milk powders (164xg)
  - — Fat extraction according to Mojonnier (80xg)
  - — Custom speed set by the user
- 0 to 255 minute timer with automatic brake at end of timed period
- Safety features include lid interlock and imbalance detector
- Accessory chamber heating available with precise control up to +65°C and preheating facility

As described. With robust steel outer casing, lid with interlock and LCD display of speed, time (and temperature when option fitted). Supplied with 12-place universal swing-out rotor. Overall 640 x 640 x 450mm W x D x H. Weight 47kg. For 230V 50/60Hz single phase supplies. Without buckets or heating module.
DA450-40 Universal centrifuge

Accessories
DA454-10 Heating module. For precise heating up to 65°C. For 230V supplies. FACTORY FITTED. MUST BE ORDERED WITH THE CENTRIFUGE

Buckets for rotor
Stainless steel. Supplied singly.
DA454-25 Butyrometer bucket, 26mm i.d.
DA454-27 Solubility Index tube bucket, 31mm i.d.
DA454-29 Mojonnier bucket with holder

Gerber Centrifuge, Micro II
For small-scale determination of fat levels in milk and dairy products. Fixed speed, providing 350xg r.c.f. with automatic brake. Microprocessor controlled, with digital setting and readout of time (0 to 60 minutes) and chamber temperature (ambient +5 to +65°C) with selectable preheating. Supplied with rotor to hold 8 x butyrometer tubes, steel outer casing and lid interlock which prevents opening whilst the rotor is spinning. Overall 430 x 460 x 280mm W x D x H. Weight 20kg. For 230V 50Hz single phase supplies.
DA460-10 Micro II centrifuge

Solubility Index and Mojonnier tubes are available – *details on request.*



DA460-10

Laboratory Deionisers

COPE–ELGA



DB030-10 *DB030-20 with DB030-80*

Cope-Elga Vision Deionisers

- High quality water instantly available
- Simple to install – wall mounting
- Colour change resin
- Supplied with dispensing spout
- Hand held dispensing gun accessory on flexible lead

Cope-Elga Vision Deionisers provide quality water as and when it is required. The need for elaborate and costly storage is eliminated. Just turn on the mains water tap and take off the water instantly either through the top dispensing spout or the accessory hand held dispensing gun. The resin changes colour when the cartridge is exhausted.

Model		***Vision 125***	***Vision 250***
Max. Flow rate	*l/h*	60	60
Max. Input pressure	*psi*	90 (6 bar)	90 (6 bar)
Mains water connection		0.5" BSP hosetail both models	
Typical water quality	*µS/cm*	0.1 to 10 both models	
Typical output, water areas			
Hard (400-500ppm)	*litres*	80 to 100	170 to 200
Mid (100-300ppm)	*litres*	150 to 400	300 to 800
Soft (40-80ppm)	*litres*	500 to 900	1100 to 1900
Overall dimensions H x W x D	*mm*	385 x 92 x 100	660 x 92 x 100
Weight	*kg*	2.5	4.2

Vision Deionisers, Cope-Elga
With colour change cartridge and dispensing spout.

DB030-10 Vision 125
DB030-20 Vision 250

Spare Cartridges

DB030-60 For Vision 125
DB030-65 For Vision 250

Accessory for both models

DB030-80 Hand held dispensing gun on flexible lead

Water Purity

Ultra-pure water, as produced by the Cope-Elga Vision, is almost entirely free of dissolved mineral salts, including silica, and will have a neutral pH since the dissolved CO_2 will have been removed. From an inorganic standpoint, ultra-pure water will conform to International Pharmacopoeia and laboratory grade specifications for purified water.

For less critical applications the Cope-Elga Vision is capable of producing pure water at the end of each cartridge run, extending its life by approximately 25%. Pure water is similar to ultra-pure water although CO_2 and silica will be present.

Water analysis

	Ultra-Pure Water	***Pure Water***
Conductivity	1 to 0.1µS/cm	10 to 1µS/cm
Resistivity	1 to 10M -cm	0.1 to 1M -cm
Silica	<0.05 ppm (mg/l)	not removed
Carbon Dioxide	<0.5 ppm (mg/l)	not removed
Trace Dissolved Metals	<0.001 ppm (mg/l)	<0.005 ppm (mg/l)
Residual Solids	<0.5 ppm (mg/l)	<5 ppm (mg/l)
Average pH	Neutral	4 to 7

Laboratory Deionisers

ELGA

The ultra-pure water, as produced by these Elga deionisers is almost entirely free of dissolved mineral salts, including silica, and will have a neutral pH since the dissolved CO_2 will have been removed. From an inorganic standpoint, Ultra-pure water will conform to International Pharmacopoeia and laboratory grade specifications for purified water.

The B114 and Micromeg are compact wall-mounted units ideal for users who require low volumes of ultra-pure water. Both feature 9V battery operated colour coded conductivity meters operated by depressing the 'water test' switch allowing instant monitoring of the treated water quality. When exhaustion of the ion exchange resins is indicated, cartridge replacement is a simple, rapid operation.

The B118 is a high output, floor standing pressurised deioniser which can be incorporated into a piped distribution system or used for direct connection to equipment requiring a pressurised treated water supply. It features an analogue scale conductivity meter which can be powered by either 9V battery or from a 220-240V 50Hz mains supply if available. This monitors treated water quality and indicates when the resins are exhausted. A replacement cylinder can be fitted in minutes.

		DB105-10	DB120-10	DB200-10
Model		B114	micromeg	B118
Output min./max.	*litres**	20/250	100/15000	200/50000
Water purity	*µS/cm*	1 to 0.1	1 to 0.1	1 to 0.1
Flow rate	*litres/hour*	30	90	240
Mounting		Wall	Wall	Floor
Cartridge		Disposable	Disposable	Regenerated
Meter		✓	✓	✓
Voltage	*V*	9	9	9 or 220-240
Max. input pressure	*bar*	0.63	3.5	4.6
Overall H x W x D	*mm*	380 x 180 x 152	550 x 200 x 230	880 x 220 x 210
Weight	*kg*	2.2	6.5	18

*The output capacity will vary depending on the local water conditions.

Elga B114
With four C114 disposable cartridges. Without battery.

DB105-10 B114
DB109-06 Spare C114 disposable cartridges, pack of 4

Elga micromeg
With two MS:DS/4 disposable cartridges. Without battery.

DB120-10 micromeg
DB124-06 Spare MS:DS/4 disposable cartridges, pack of 4

Elga B118 pressurised
With spare C118 cylinder and conductivity meter requiring 9V battery (not supplied) or 220-240V 50Hz supplies.

DB200-10 B118
BL610-25 Accessory battery, 9V for deionisers DB105, DB120, and DB200



DB105



DB120



DB200

Ultrapure Water Systems, Purelab flex 3 and 4

ELGA

Compact, bench mounting water systems which can produce Type I ultrapure water for HPLC, GFAAS (graphite furnace atomic absorption spectrophotometry), ion chromatography, inductively coupled plasma atomic emission or plasma mass spectrometry and life science applications. Alternatively, Type III reverse osmosis water is available for less demanding applications such as autoclave feed, steam generators and hydroponics.

- Designed for use with pre-purified or mains feedwater
- Incorporates reverse osmosis prefilter cartridge, photo-oxidation module with UV lamp to destroy micro-organisms and break down trace organic compounds to assist in the reduction of Total Organic Carbon (TOC), microfiltration and purification modules including deionisation and organic compound absorption
- Continuous recirculation eliminates static water zones, maintaining water quality and inhibiting microbial growth
- Manual dispensing unit on supported flex with display of purity, TOC and dispensing rate
- USB interface with data output for system performance validation
- Accessories include wall mounting kit, foot pedal control switch, leak sensor, sanitisation cartridge, biofilter which reduces DNase, RNase and bacteria from the output water, and 'Point-of-use' filter which provides conformance to international standards CLSI, CLRW, ISO 3696 Grade I, 2 and 3, ASTM, D1193-06, USP, EP and JP

Model, Purelab -	flex 3	flex 4
Feed Water		
Quality	Potable water of <2000µS/cm*	Pre-purified and filtered water of <30µS/cm
Hardness, ppm $CaCO_3$	<350	Minimal
Free chlorine, ppm CL_2	<0.5	<0.05
Chlorine, ppm CL_2	<0.2	<0.05
Total chlorine, ppm CL_2	<0.5	<0.05
Silica, ppm SiO_2	<30	<2
Carbon dioxide, ppm	<30	<30
Fouling index	<10	<1
TOC	<2ppm	<50ppb
Iron/manganese	<0.05ppm	N/A
Particulates	0.2µm prefilter recommended for non-RO feeds	N/A
Drain (gravity fall with air gap L/hr)	>90	>70
Pressure min/max. psi	30/90**	1/90

*Purification pack life may vary with feed waters >1400µS/cm

**Boost pump required if feed water pressure <60psi - *details on request*

Treated Water		
Daily volume, litres	<10	<10
Flow rate litres/min	≤2	≤2
Quality		
Inorganics (resistivity at 25°C) MΩ-cm	18.2	18.2
Organics (TOC)	<5ppb	<5ppb†
Internal reservoir	Type III/RO water — both models††	
Bacteria, typical		
with point-of-use filter†††	<1 CFU/10ml — both models	
with biofilter†††	<1 CFU/10ml — both models	
Endotoxins with biofilter	<0.001 EU/ml — both models	
DNase with biofilter†††	<20pg/ml — both models	
RNase with biofilter†††	<0.02ng/ml — both models	

†Dependent on feed water

††Better than/equal to Type III reverse osmosis water

†††Accessory filters

Specifications (both models)

Overall H x W x D	900 (1020***) x 236 x 470
Weight, full, kg	23
Supply requirements	100-240V 50/60Hz single phase, 100W

***With dispense flex extended

As described. For 100-240V 50/60Hz single phase supplies and feed water quality as indicated. Require, but are not supplied with, DB304-59 for operation.

DB300-40 Purelab flex 3 for potable feed water
DB300-45 Purelab flex 4 for pre-purified/filtered feed water

Accessories

DB304-42 Leak detector
DB304-44 Foot switch
DB304-46 Wall mount kit
DB304-50 Point-of-use filter

DB304-53 Biofilter
DB304-56 Sanitisation filter
DB304-59 Purification filter

Spares

DB304-65 UV lamp
DB304-67 Reverse Osmosis (RO) module for flex 3 only
DB304-69 Composite air vent filter



DB300

Permutit CD Wall/Bench Deioniser Models

Require a water feed which is clean, colourless and free from organic matter. Water purity is dependent upon the quality of the inlet water.

Catalogue No.		***DB685-12***	***DB700-10***	***DB710-10***	***DB720-10***
Model		CD100	CD250	CD500	CD Plus
Output min./max.	*litres*	40/160	100/500	200/1000	25000*
Water purity	*µS/cm*	2 to 30	0.055 to 30	0.055 to 30	see separate table
Flow rate, max	*litres/hour*	120	120	120	120
Mounting		Bench	Wall/Bench	Wall/Bench	Wall/Bench
Cartridge		Disposable	Disposable	Resin pack	Disposable
Meter		—	✓	✓	✓
Voltage	*V*	—	9	9	9
Max. input pressure	*bar*	4	4	4	4
Overall H x W x D	*mm*	330 x 130 diameter	421 x 270 x 170	641 x 270 x 300	421 x 270 x 125
Weight	*kg*	2.5	6	11	5.75

* When fed with water pre-deionised to 1µS/cm.

Typical CD Plus water quality when used with pre-deionised water.

Conductivity	0.06 to 1.0µS/cm
Resistivity	1 to 18M -cm
TDS	0.5ppm
pH	Neutral
Heavy Metals	< 0.0001ppm
Silica	< 0.02ppm
Dissolved CO_2	< 0.2ppm
Total Organic Carbon	< 0.2ppm

Permutit CD100
Supplied with one colour change disposable cartridge.
DB685-12 CD100

Spare disposable colour change cartridges. Supplied in pack of 2.
DB685-50

Permutit CD250
With disposable cartridge and battery.
DB700-10 CD250

Spare disposable cartridge for CD250. Supplied in pack of 2.
DB702-06

Permutit CD500
With disposable resin charge and battery.
DB710-10 CD500

Spare disposable resin for CD500. Box of 4 x 4 litre refills.
DB712-08

Permutit CD Plus
Provides ultrapure water simply and conveniently when fed from any of the Vivendi Water Systems Permutit CD series deionisers or a suitable deionised supply. Comprises a 'polishing' mixed bed deioniser, 0.2µm filter and conductivity meter.
DB720-10 CD Plus

Spare cartridges for CD Plus. Supplied in pack of 2.
DB720-50

Accessory for DB700/710/720
BL610-25 Battery 9V



Deioniser Permutit Model 24R

For regeneration by the user. Requires a raw water feed which is clean, colourless and free from organic matter.

Catalogue No.		***DB805-10***
Model		24R
Max./min. flow	*litres/h*	400/60
*Optimum flow**	*litres/h*	200
Water purity	*µS/cm*	15 to 30
Maximum working temperature	*°C*	35
Minimum ambient temperature (to prevent freezing of chemicals)	*°C*	15
Max./min. working pressure	*bar*	7/1.5
Capacity based on 100 ppm total anions (as $CaCO_3$)	*m^3*	5.0

* For maximum capacity between regenerations.

Dimensions

Overall H x W x D	*mm*	1050 x 430 x 360
Weight, filled	*kg*	60
Regeneration drain (with 4m tubing)	*mm, o.d.*	12.7
*Raw water inlet tube (with 1.5m tubing)**	*mm, o.d.*	9.5
*Treated water outlet tube (with 1.5m tubing)**	*mm, o.d.*	9.5

* Two connectors supplied (9.5mm o.d. tube to ¾ inch BSP male).

Note: Local water authority requirements often necessitate units to be fitted with non-return valves and break tanks – these are available as optional extras.

Regeneration requirements

30% w/w caustic soda	*litres*	2.7
32% w/w hydrochloric acid	*litres*	3.5
Effluent volume per regeneration	*litres*	400
Max. flow per regeneration (at max.working pressure)	*litres/hour*	700
Regeneration time	*minutes*	90

Permutit 24R
With cation/anion resin charges and battery for conductivity meter.

DB805-10 24R
BL610-25 Accessory battery 9V

Density

Density Bottles
With capillary stopper. Adjusted bottles only are to BS733, IP190 Type 1(b) and STPTC Schedule VII. With capacities as indicated.

Unadjusted, soda-lime glass

DC300-11 10ml
DC300-14 25ml
DC300-17 50ml
DC300-20 100ml

Adjusted, borosilicate glass

DC305-15 10ml
DC305-18 25ml
DC305-21 50ml
DC305-24 100ml*

*Supplementary to BS733 range.

Density meter, hand-held, Densito 30PX, Mettler-Toledo
Direct reading, density meter applying the oscillating tube principle.

Range (resolution)	*g/ml*	0 to 2 (0.0001)
Accuracy	*g/ml*	±0.001
Selectable units		Density, s.g. (with/without temperature compensation), Brix %, alcohol w/w %, US proof, UK proof, °Baumé. °Plato, API (A B and D tables), % sulphuric acid, user defined
Temperature range (resolution)	*°C*	+5 to +40 (0.1)
Temp. compensation		Automatic, or by up to 10 x user-defined coefficients held in memory
Calibration		Dry air or pure water
Memory		1100 data points (result, sample I.D., temperature compensation coefficient, date, time)
Display		Backlit dot matrix LCD
Output		RS232
Power		2 x 1.5V AAA batteries
Overall, W x D x H	*mm*	70 x 110 x 260
Weight	*g*	360

DC380-20 Densito 30PX
DC382-05 Syringe adapter for DC380-20, to enable injection of viscous samples into the sample chamber (requires disposable syringe not supplied)
BL610-08 Spare 1.5V AAA battery (2 required)

Hydrometers – *see Hydrometry section.*



DB805-10



DC300 ***DC305***



DC380

Desiccators

Duran® Glass

Borosilicate glass to DIN12491.

Knob lid
Ground flange. Without disc. Dimensions as indicated.

	Flange i.d. mm	*Approx. volume litres*
DE200-12	119	0.7
DE200-17	172	2.4
DE200-22	224	5.8
DE200-27	274	10.5

Vacuum
With 24/29 stopcock and ground flange. Without disc.

	Flange i.d. mm	*Approx. volume litres*
DE202-12	119	0.7
DE202-17	172	2.4
DE202-22	224	5.8
DE202-27	274	10.5

DE202-38 Spare stopcock 24/29

Desiccator Discs

	Diameter, mm	*To fit desiccator flange i.d. mm*
Perforated metal.		
DE220-10	90	119
DE220-15	140	172
DE220-20	190	224
DE220-24	235	274
Perforated porcelain		
DE225-10	90	119
DE225-15	140	172
DE225-20	190	224
DE225-24	235	274

Silicone free lubricant, Glisseal
For desiccator flanges. In 60g tube.
LT160-12 Glisseal

Plastic

Desiccators, Bel-Art, Vacuum
Tough transparent polycarbonate top with O-ring seal, polypropylene base desiccant tray and perforated plate. With stopcock which accepts 6mm bore flexible vacuum tubing and PTFE plug in the top which turns to allow controlled admission of air. Dimension given is the top internal diameter.

DE400-15 149mm
DE400-20 197mm
DE400-25 240mm
DE402-10 Spare stopcock

Desiccant
Colour change silica gel beads in a cartridge designed to fit DE400 series desiccators but can be used also in other desiccators of suitable diameter. The silica gel can be regenerated repeatedly without degradation at 150°C. Supplied in moisture proof pouch.

DE404-10 114mm diameter
DE404-13 197mm diameter
DE404-16 238mm diameter

Desiccators, Kartell, Vacuum
Tough transparent polycarbonate top with O-ring seal, polycarbonate vacuum connection valve and polyethylene plug which allows controlled admission of air. The base is polypropylene and has a removable pan to hold desiccant. Dimension given is the top internal diameter.

DE408-15 150mm
DE408-20 200mm
DE408-25 250mm

Silica Gel
Self indicating. Supplied in packs as indicated.

GG150-95 Silica gel, 500g
GG150-97 Silica gel, 25kg


DE200


DE202


DE400 with DE404


DE408

Desiccator Cabinets

Desiccator Cabinet

Transparent polystyrene construction with foam rubber door seal and stacking flanges. The door opens downwards and slides into a compartment under the chamber floor. Supplied with a sachet of desiccant silica gel and convenient jar with perforated lid to hold desiccant in use. Internal dimensions 190 x 180 x 110mm W x D x H. Overall 225 x 200 x 170mm W x D x H.

DE425-12 Desiccator cabinet

Desiccator Cabinet

Rigid aluminium frame with acrylic panels, hinged door with magnetic latches and mounted hygrometer, desiccant and tray, with four removable shelves which are adjustable for height. Up to 22 additional accessory shelves can be added if required. Internal dimensions (useable) 260 x 320 x 480mm W x D x H. Overall 304 x 375 x 520mm W x D x H.

DE425-20 Desiccator cabinet
DE425-22 Spare/accessory shelf

Desiccator Cabinets

- Rigid aluminium frame with non-slip rubber feet (DE425-30) or castors (DE425-35) and borosilicate glass panels offering chemical resistance to most acids and organic substances
- Stainless steel shelves allow storage of hot products up to +300°C (if placed at the centre of the shelf)
- Built-in thermohygrometer
- Rounded edges and gasket-lined door(s) with magnetic strip closure

Model		***DE425-30***	***DE425-35***
Capacity	*litres*	42	140
No. of compartments (doors)		1	2
Number of shelves per compartment		4	2
Internal dimensions W x D x H	*mm*	260 x 330 x 480	495 x 540 x 500
External dimentions W x D x H	*mm*	310 x 375 x 525	560 x 580 x 1150
Weight,	*kg*	14	42

As described. Rigid aluminium frame with rounded edges, borosilicate glass panels, gasket-lined door(s) with magnetic strip closure and mounted thermohygrometer, desiccant tray, and four removable stainless steel shelves which are adjustable for height.

DE425-30 Desiccator cabinet, 42 litre
DE425-35 Desiccator cabinet, 140 litre



DE425-12



DE425-20



DE425-30



DE425-35

Dewar Flasks

All dimensions and capacities are nominal.

Dewar Flasks
Silvered glass cylindrical inner vessel with plastic outer container, screw stopper and cap.

DE700-10	500ml
DE700-15	1000ml

Dilvac Flasks, Tall Form
Borosilicate glass in stainless steel outer container. With swivel handle and insulated vented lid secured by toggle clamps.

	Int. dia. x depth, mm	*Cap. litres*
DE710-10	85 x 185	1
DE710-15	106 x 205	2
DE710-20	150 x 280	4.5
DE710-25	200 x 285	7
Refills for DE710-series		
DE712-10	85 x 185	1
DE712-15	106 x 205	2
DE712-20	150 x 280	4.5
DE712-25	200 x 285	7

Dilvac Flasks, Shallow Form
Borosilicate glass in stainless steel outer container. Open top. Without handle or lid.

	Int. dia. x depth mm	*Cap. litres*
DE725-12	77 x 50	0.2
DE725-17	100 x 65	0.5
DE725-22	115 x 70	0.7
DE725-27	138 x 80	1
DE725-32	155 x 120	2
Refills for DE725-series		
DE727-12	77 x 50	0.2
DE727-17	100 x 65	0.5
DE727-22	115 x 70	0.7
DE727-27	138 x 80	1
DE727-32	155 x 120	2

Dilvac Flasks
All stainless steel open top
Can be used for ultra-low or high temperatures from –196°C to +300°C. Suitable for the storage and transportation of liquid oxygen and liquid nitrogen. With steel detachable swivel handle but without lid.

	Int. dia. x depth mm	*Cap. litres*
DE735-12	85 x 206	1
DE735-15	100 x 157	1
DE735-18	100 x 285	2

Dilvac Flask
Borosilicate glass in tough polypropylene outer container with swivel handle and push-fit, insulated, vented lid.

		Int. dia. x depth mm	*Cap. litres*
DE738-10	Flask	85 x 185	1
DE712-10	Refill	85 x 185	1

Dewar Flasks, Nalgene
Double-walled HDPE flasks with urethane foam insulation, moulded-in ribs for added safety when held, and loose fitting insulated cover. The 1, 2 and 4 litre sizes additionally have a polyethylene coated swivel carrying handle. Suitable for use over the range –196°C to +100°C. Dimensions given are neck internal diameter x internal depth.

	Int. dia. x depth mm	*Cap. litres*
DE750-40	96 x 195	1
DE750-43	122 x 231	2
DE750-46	158 x 295	4
DE750-49	198 x 396	10



DE700



DE725 and DE727



DE738



DE710 & DE712



DE735


DE750-40 to -46

Dewar Flasks continued

Dewar Flasks, Shallow form, KGW-Isotherm

To DIN12492. Silvered, borosilicate glass with textured aluminium housing and plastic rim and base protection. Antimagnetic materials allow use with magnetic stirrer. Will also accept round bottom flasks of diameters as indicated.

	Int. dia. x depth mm	*Cap. litres*	*For flask dia. mm*
DE740-20	100 x 65	0.26	85
DE740-30	110 x 70	0.40	85
DE740-40	138 x 80	0.80	105
DE740-50	170 x 110	1.60	131

Dewar Flasks, Tall form, KGW-Isotherm

To DIN12492. Silvered, borosilicate glass with blue powder-coated aluminium housing and plastic rim protection. Antimagnetic materials allow use with a magnetic stirrer.

	Int. dia. x depth mm	*Ext. dia. mm*	*Cap. litres*
DE744-10	40 x 170	63	0.2
DE744-25	57 x 210	81	0.5
DE744-35	67 x 350	90	1.2
DE744-45	77 x 345	105	1.5
DE744-55	100 x 290	130	2.0

Dewar Flasks, Spherical, KGW-Isotherm

To DIN12492. Silvered, borosilicate glass, spherical vessel for the storage and transport of liquid nitrogen. With rugged, aluminium housing, carrying handle and narrow neck with drop on, insulating lid.

	Cap. litres	*Neck dia. mm*	*Ext. dia. mm*
DE746-16	1.0	30	175
DE746-22	3.0	60	225
DE746-27	5.0	60	260
DE746-34	10.0	65	330

Ice and dry ice carriers, Igloo – *see Ice Production/Storage section.*



DE740



DE744



DE746

Dewar Flasks, Dialysis

Liquid Nitrogen Storage Vessels

MVE Lab Series
Lightweight aluminium construction with high efficiency insulation and vacuum retention. With carrying handle.

Model		LAB4	LAB5	LAB10	LAB20	LAB30	LAB50
Capacity	*litres*	4	5	10	21	32	50
Static evaporation rate, per day, litres		0.19	0.15	0.18	0.18	0.22	0.49
Neck diameter	*mm*	35.5	56	56	51	64	64
Overall height	*mm*	426	462	546	627	611	779
diameter	*mm*	185	222	260	368	432	432
Weight, empty, kg		2.7	4	6	9	12	15
full, kg*		6	8	14	26	38	56

* When filled with liquid nitrogen.

Liquid Nitrogen Dewar Vessels
As described. Supplied empty.

DE757-04 Dewar, LAB4
DE757-05 Dewar, LAB5
DE757-10 Dewar, LAB10
DE757-20 Dewar, LAB20
DE757-30 Dewar, LAB30
DE757-50 Dewar, LAB50

Alternative sizes of dewars, filling tubes and dispensing siphons are available – *details on request*.



DE757 with accessories

Dialysis Tubing, Visking

Dialysis Tubing, Visking
A transparent seamless viscose cellulose containing glycerine water and approximately 0.1% sulphur. Permeable to water and with an average pore radius of 24Å. Will permit diffusion of low molecular weight compounds in aqueous solution through the walls but retain high molecular weight compounds such as bacteria and proteins. Supplied as a flat roll in an airtight container. Dimensions given are inflated diameter x flat width and are approximate. Supplied in rolls of 30 metres (except DG100-05 which is supplied in a roll of 15 metres).

DG100-05 6 x 10mm
DG100-12 14 x 25mm
DG100-18 19 x 32mm
DG100-26 29 x 44mm

Clips, for dialysis tubing
Plastic. For closing the end of tubing up to 29mm inflated diameter. Supplied in pack of 10.

DG110-10 Clips



DG100 with DG110



DG110

Compudil 3 Diluter

Easy to use, digitally controlled diluter for routine dilution and dispensing.

- Ranges 1µl to 5ml sample 50µl to 25ml diluent using accessory syringes and valve blocks
- Simple keypad programming for all mainstream liquid handling procedures.
  Standard protocols include:
  - 4 types of conventional diluting
  - 6 types of conventional dispensing
  - liquid transfer and wash
  - serial dilution mode
- Precise, C.V. better than ±0.1% of full syringe volume
- 45 programme memory
- RS232 interface allows bi-directional programme and procedural information exchange with the users' PC for GLP accreditation requirements and remote programming
- Inert liquid pathway
- Easily manipulated handset to minimise fatigue
- Low dead volume (1ml: 95% recoverable)
- Operating speeds 2 to 15 seconds for full syringe stroke depending on syringe and tubing size used
- Optional footswitch allows hands-free operation

Syringes
A total of 10 different sizes of syringe fit the Compudil '3' allowing one diluter to be used for sample volumes between 1µl and 5ml, and diluent volumes up to 25ml (using relevant valve blocks). Threaded connectors allow quick and easy exchange of syringes and once the relevant syringe volumes are keyed in the details are retained on the diluters memory. Digital control allows a full syringe to be dispensed in up to 5000 steps with the volumes dispensed or retained available to be displayed if required.

Valve Blocks
Accessory valve blocks allow the use of alternative tubing bores and sample/diluent syringes as indicated.

Compudil 3 Diluter
As specified. With tubing kit, handset and valve block. The valve block supplied depends on the sample and diluent syringes ordered separately with the instrument. Materials in contact with liquids are glass and PTFE based. Overall 300 x 200 x 215mm. Weight 9.5kg. For 100-120V and 210-240V 50/60Hz single phase supplies. Requires, but is not supplied with, accessory syringes for operation.

DH210-25 Compudil 3

Accessory and spare syringes for DH210-25

	Type	*Cap.*
DH214-24	Sample	50µl
DH214-27	Sample	100µl
DH214-30	Sample	250µl
DH214-32	Sample	500µl
DH214-33	Sample	1000µl
DH214-34	Sample/Diluent	1ml
DH214-37	Sample/Diluent	2.5ml
DH214-40	Sample/Diluent	5ml
DH214-43	Diluent	10ml
DH214-46	Diluent	25ml
DH214-55	Footswitch	
DH215-60	Handset for 2.5ml and 5ml sample syringes	

Accessory Valve Blocks

	For syringes sample	*diluent*
DH215-70	1ml	5ml
DH215-72	1ml	10 to 25ml
DH215-75	1ml	all



DH210-25

Discs, Dishes

Discs, aluminium foil
Disposable, interleaved with tissue paper. Thickness 0.03mm. Diameters as indicated. Supplied in packs of 1000.

	Diameter, mm
DH640-10	80
DH640-20	100
DH640-30	120
DH640-40	130
DH640-50	150

Dishes, aluminium foil
Disposable, circular and slightly tapered, with smooth, 0.2mm thick walls and flanged rims for easy handling. Supplied in packs as indicated.

	Top dia. x depth mm	*Pack qty.*
DH798-40	42 x 5	500
DH798-50	57 x 10	250

Dishes, white PVC, Azlon
For general purpose and photographic use. With pouring lip. Dimensions as indicated.

	L x W x D, mm
DH800-10	185 x 127 x 50
DH800-20	260 x 200 x 65
DH800-22	300 x 250 x 62
DH800-25	420 x 320 x 75
DH800-30	510 x 425 x 75
DH800-35	650 x 520 x 90

Trays, multipurpose
White polypropylene, deep, tough trays which resist flexing – *see TT210 series.*


DH640


DH798


DH800

Bottle Top Dispensers, Dispensette® III

BRAND

Conformity certified, with performance certificate

- Choice of
  - — Fixed volume: 2 sizes 5ml or 10ml
  - — Variable volume: 7 sizes from 0.05ml to 100ml. Continuous volume adjustment by pointer
  - — Variable digital: 5 sizes from 0.2 to 50ml. Easy to read digital volume display and calibration adjustment
  - — Organic: 4 sizes of adjustable volume from 0.5 to 50ml. Ideal for organic solvents including chlorinated and fluorinated hydrocarbons, concentrated acids, TFA (trifluoroacetic acid), THF (tetrahydrofuran) and peroxides
  - — HF: Adjustable volume 1ml to 10ml. Ceramic piston cylinder and ball valves for dispensing hydrofluoric acid

Built-in features

- Calibration adjustment on all models to comply with ISO9000 and GLP requirements
- Reagents in contact with chemically inert materials only
- TPX® protective sleeve around the glass cylinder (HF model has a ceramic cylinder) to reduce breakage hazards
- Safety discharge valve restricts reagent flow when the discharge tube is not secured properly
- Optional SafetyPrime™ valve on the discharge tube allows reagent to be channelled back into the reservoir during priming to avoid 'spitting'
- Multi-layered PFA plunger coating for smoother operation and better chemical resistance
- Locking sleeve supports full length of discharge tube for stability during dispensing and screwthread safety cap reduces risk of reagent splashing
- Telescopic, FEP filling tube self-adjusts to the depth of the reservoir bottle
- Valve block rotatable 360° to allow the reservoir label to be viewed comfortably by facing the user and dispenser fascia and discharge tube can be independently rotated on the reservoir neck for maximum convenience in use
- All models can be steam sterilised at 121°C (2 bar for 20 minutes)



DK102 on a bottle



DK105 on a bottle



DK110 on a bottle

Bottle Top Dispensers Dispensette III® continued

The figures given for accuracy and reproducibility are final test values referred to maximum volume and distilled water at 20°C.

Dispensette III, Fixed Volume

Accuracy (A) < ±0.5%, reproducibility (V) < 0.1%. Adjustable calibration. A45 standard neck thread. Supplied with FEP discharge tube and valve as indicated, performance certificate, operating manual, mounting tool, FEP telescopic filling tube and PP bottle adapters as specified in the separate table. Without reservoir bottle.

Volume ml	***With standard valve***	***With SafetyPrime™ valve***
5	DK100-33	DK102-33
10	DK100-39	DK102-39

Dispensette III, Variable Volume

Accuracy (A) < ±0.5% (for 0.05 to 0.5ml < 1%) reproducibility (V) < 0.1% (for 0.05 to 0.5ml < 0.2%). Continuous pointer adjustment of volume. Adjustable calibration. A45 standard neck thread. Supplied with FEP discharge tube and valve as indicated, performance certificate, operating manual, mounting tool, FEP telescopic filling tube and PP bottle adapters as specified in the separate table. Without reservoir bottle.

Volume ml	*Subdiv. ml*	***With standard valve***	***With SafetyPrime™ valve***
0.05 to 0.5	0.01	DK105-12	DK107-12
0.2 to 2	0.05	DK105-17	DK107-17
0.5 to 5	0.1	DK105-22	DK107-22
1 to 10	0.2	DK105-27	DK107-27
2.5 to 25	0.5	DK105-32	DK107-32
5 to 50	1.0	DK105-37	DK107-37
10 to 100	1.0	DK105-42	DK107-42

Dispensette III, Digital Variable Volume, Easy Calibration

Accuracy (A) < ±0.5% reproducibility (V) < 0.1%. Digital display of volume setting. Easily adjustable calibration with display flag indicating user re-calibration from factory setting. A45 standard neck thread. Supplied with FEP discharge tube and valve as indicated,performance certificate,operating manual, mounting tool, FEP telescopic filling tube and PP bottle adapters as specified in the separate table. Without reservoir bottle.

Volume ml	*Subdiv. ml*	***With standard valve***	***With SafetyPrime™ valve***
0.2 to 2	0.01	DK108-13	DK110-13
0.5 to 5	0.02	DK108-19	DK110-19
1 to 10	0.05	DK108-25	DK110-25
2.5 to 25	0.1	DK108-31	DK110-31
5 to 50	0.2	DK108-37	DK110-37

Dispensette III, Organic Dispenser, Variable Volume

Accuracy (A) < ±0.5% reproducibility (V) < 0.1%. Continuous pointer adjustment of volume. Adjustable calibration. A45 standard neck thread. Supplied with FEP discharge tube and valve as indicated,performance certificate, operating manual, mounting tool, FEP telescopic filling tube and PP bottle adapters as specified in the separate table. Without reservoir bottle.

Volume ml	*Subdiv. ml*	***With standard valve***	***With SafetyPrime™ valve***
0.5 to 5	0.1	DK111-40	DK111-62
1 to 10	0.2	DK111-43	DK111-65
2.5 to 25	0.5	DK111-46	DK111-67
5 to 50	1.0	DK111-49	DK111-71

Dispensette III, HF Dispenser, Variable Volume

Accuracy (A) < ±0.5% reproducibility (V) < 0.1%. Continuous pointer adjustment of volume. Adjustable calibration. A45 standard neck thread. Supplied with FEP discharge tube and valve as indicated, performance certificate, operating manual, mounting tool, FEP telescopic filling tube and PP bottle adapters as specified in the separate table. Without reservoir bottle.

Volume ml	*Subdiv. ml*	***With standard valve***	***With SafetyPrime™ valve***
1 to 10	0.2	DK112-26	DK113-26

Dispensette max. volume, ml	*Bottle adapters supplied*	*Telescopic filling tube supplied, mm*
0.5	A22, A25, A28, A32	67 to 140
2, 5, 10	A25, A28, A32, A38, S40	67 to 140
25, 50	A32, A38, S40	171 to 330
100	A32, A38, S40	171 to 330

Accessory Reservoir Bottles

Amber, soda-lime glass, square pattern (except DK114-32 which is cylindrical) with plastic coating to reduce breakage hazards, PP screw cap and pouring ring. Maximum operating temperature +80°C. Not suitable for HF dispenser.

	Capacity ml	*Screw neck mm*	*Bottle width x height, mm*
DK114-14	100	GL32	50 x 125
DK114-17	250	GL32	65 x 160
DK114-22	500	GL32	80 x 195
DK114-27	1000	GL45	95 x 230
DK114-32	2500	GL45	140 x 300

Accessory reservoir bottle for HF dispenser – *see BR770-52.*

Standard SafetyPrime™ valve, for DK100 to DK111-series

Can be used to convert standard discharge tubes to recycle reagent and disperse air bubbles during priming or as a spare part (except for HF dispensers).

DK114-75 Standard SafetyPrime™ valve

HF SafetyPrime™ valve, for DK112 to DK113-series

Generally as DK114-75 but constructed from HF resistant materials.

DK114-77 HF SafetyPrime™ valve

Note: Dispensette III spares and accessories are not compatible with previous models and vice versa, except reservoir bottles.



DK107-12, DK111-65, DK113-26 on bottles

Bottle Top Dispensers, Pressmatic PD series

Bibby Scientific

- Ceramic piston ensures
  - — no surface abrasion
  - — no thermal expansion
  - — no sticking with alkalis
- Recirculation valve allows safe priming without wasting reagent
- Self-locking volume selection
- Accuracy within 0.7%
- Can be autoclaved at 121°C
- Works calibrated volume certificate
- Valves easily removed for cleaning

Variable setting with precision borosilicate glass cylinder and tough ceramic piston. The outer sleeve is a tough, chemically resistant plastic. The liquid pathway is PTFE, glass and ceramic. The unit can be rotated 360° on the bottle for easy positioning. Inlet and outlet valves are both easily removed for cleaning or replacement using the spanner provided. A fully supported delivery jet prevents 'side fling' of reagent and ensures accurate dispensing into small vials. Suitable for mounting on a bottle with a 45mm screw neck and supplied with one each A32, A38 and S40 adapters to fit most types of reagent bottle. Without reservoir bottle.

Pressmatic Dispensers

As described. With valve spanner and adapters but without reservoir bottle.

	Ref.	*Range ml*
DK152-10	PD1R	0.2 to 1
DK152-15	PD2R	0.4 to 2
DK152-20	PD5R	1 to 5
DK152-25	PD10R	2 to 10
DK152-45	PD30R	5 to 30
DK152-55	PD60R	10 to 60

Spares

DK155-19	PTFE delivery tube with support and cap, PDN5
DK155-25	Inlet suction tube for use with DK154 bottles, 750mm, PDN4/2
DK155-28	Outlet valve, PDV3
DK155-29	Recirculation valve PDR1
DK155-32	Inlet valve, PDS3
DK155-34	Valve spanner, PSS1

Accessory Bottles

DK154-10	Amber 500ml, A32
DK154-15	Amber 1000ml, GL45
DK154-20	Clear 500ml, A32
DK154-25	Clear 1000ml, GL45



DK152

Bottle Top Dispensers, Pressmatic PP series

Bibby Scientific

Low cost dispensers for operation in less demanding applications.

- Borosilicate glass piston
- Polypropylene valve block
- Accuracy within 0.7%
- Can be autoclaved at 121°C
- Valves easily removed for cleaning
- Works calibrated volume certificate

Suitable for use with most aqueous solutions, dilute acids, alkalis and polar solvents. Not suitable for Halogenated solvents, oxidising or concentrated acids.

Pressmatic PP Dispensers

As described. Suitable for mounting directly on a bottle with a 32mm screw neck and supplied with one each A28, A45 and S40 adapters to fit most types of reagent bottle. Without reservoir bottle.

	Ref.	*Range ml*
DK157-25	PP10P	2 to 10
DK157-55	PP60P	10 to 60

Accessory Bottles

DK154-10	Amber 500ml, A32
DK154-15	Amber 1000ml, GL45
DK154-20	Clear 500ml, A32
DK154-25	Clear 1000ml, GL45



DK157

Bottle Top Dispensers Ultra series

volac

- Precision glass barrel with PTFE piston
- Accuracy within ±1%
- Continuous pointer, volume adjustment
- Liquid pathway: glass, PTFE, FEP
- Autoclavable as two dismantled sub-assemblies to 121°C at 2 bar
- Works calibration certificate included
- Supplied with adapters for 28, 30, 32, 36, 40 and 45mm diameter screw necks

Ultra Series Dispensers
As described. Supplied with screwthread adapters for 28, 30, 32, 36, 40 and 45mm diameter screw necks. Without reservoir bottle.

DK224-10 0.25 to 2.50 x 0.05ml
DK224-20 0.50 to 5.00 x 0.10ml
DK224-30 1.00 to 10.00 x 0.20ml

DK224-40 2.50 to 30.00 x 0.50ml
DK224-50 5.00 to 60.00 x 1.00ml
DK224-60 10.00 to 100.00 x 2.00ml

Reservoirs - *see DK114-series.*

Dispensing Pipetters, fixed and variable volume – *see Pipettes section.*

Bottle Top Dispensers Safety Zippette

JENCONS

- Borosilicate syringe body
- Smooth-action PTFE piston which is easily removed for cleaning
- Precision ±0.1%CV
- Accuracy <±0.3%, DIN 12650 and DIN 8655-3 compliant
- Slide and indicator volume adjustment with twist lock and dual scales for left or right-handed use
- Fully autoclavable to 121°C at 2 bar

A range of six, variable volume dispensers with PTFE pistons within a borosilicate syringe body. The body is encased in a polypropylene housing incorporating a volume adjustment mechanism with twist-locking slide and dual scale volume indicator. The pedestal houses a precision valve mechanism which ensures easy priming and minimum waste with no leakage back into the reservoir. It also features a right-angle delivery tube protection sleeve for easy dispensing into narrow-neck containers with anti-drip safety valve to stop drips when the dispenser is not in use. The highly stable accessory amber glass reservoirs are sterilisable and have a separate PVDF filler neck. All Zippettes fit directly onto 30mm diameter neck screwthread bottles and are supplied with screw thread adapters for 38mm, 40mm and 45mm diameter necks. Without reservoir bottle.

Catalogue No.	*Capacity ml*	*Subdivisions ml*
DK230-11	2.5	0.05
DK230-15	5	0.10
DK230-19	10	0.20
DK230-23	30	1.00
DK230-27	50	1.00

Accessories

Reservoir bottles
Amber borosilicate glass, squat form with PVDF side filling neck.

DK235-17 1.4 litre
DK235-27 2.5 litre

Filling funnel
With off-set stem for filling of the reservoir.

DK235-85 Funnel



DK224 on bottle



DK230 in use with reservoir

Bottle Top Dispensers

SOCOREX SWISS

- Rapid, precise volume setting by twist-setting collar with large display window and easy-to-read scale
- Autoclavable at 121°C maximum, fully assembled
- Solid cam provides factory calibrated step for each volume increment
- Dispensing tube rotates 360° giving comfortable working position
- Borosilicate plunger with PFA coating
- Accuracy <±0.7%. (DK282-25 <±0.2%)
- Precision <0.1% CV

Dispensers, Socorex
With calibrated stop volume selector. Suitable for mounting on bottles with 32/33mm screw necks and supplied with one each polypropylene adapters for screw neck diameters as indicated. Without reservoir bottle.

	Range ml	*Adapters supplied mm diameter*
DK282-11	0.25 to 2.00	28, 40, 45
DK282-14	1.00 to 5.00	28, 40, 45
DK282-17	1.00 to 10.00	28, 40, 45
DK282-25	10 to 100.00	38, 40, 45

Reservoirs

	Capacity ml	*Screw thread mm*
Glass, amber		
DK154-10	500	32
DK154-15	1000	45
Glass, clear		
DK154-20	500	45
DK154-25	1000	45

Programmable Dispenser Perifill IQ3000

Microprocessor controlled, precision peristaltic pump dispenser for repeatable deliveries of liquids, particularly in bacteriological or pharmaceutical applications.

- Single or multiple doses
- Variable slow start/finish sequential delivery reduces splashing
- Two-speed recycling of reagents to the reservoir, when not dispensing, maintains flow rate, aids temperature control and improves accuracy
- Memory storage of up to nine user-defined programmes, calibration values, volumes and set-up parameters
- Variable delay between dispensings
- Easy calibration
- Capable of handling viscous materials
- Menu driven operation

Dose volume	*ml*	0.1 to 9999.99
Accuracy (at volumes)	*%*	±0.5
Flow rate	*ml/sec.*	2.1 to 40.7*
Pump speed	*rpm*	72 (slow), 225 (fast)
Dose delay setting	*sec.*	0.5 to 9.5 x 0.5
Overall dimensions L x W x H	*mm*	300 x 300 x 300
Net weight	*kg*	15
Supply requirements		110-120/220-240V 50/60Hz single phase, 130W

*Dependent on tube bore and speed selected.

Programmable Dispenser, Perifill IQ3000
As described. Supplied with delivery support arm and clamp, foot switch, mains lead and 2 silicone tubing assemblies (3mm and 5mm bore). For 220-240V 50Hz single phase supplies.

DK312-10 Perifill IQ3000

Tubing Assemblies and Tubing, Silicone

Bore. mm	*Flow rate ml/sec.*	**Tubing Assemblies**	**Tubing, pack of 3.7 metres***
2	0.98 to 2.20	***DK312-30***	***DK312-80***
3	2.10 to 4.70	***DK312-35***	***DK312-85***
5	6.60 to 14.00	***DK312-40***	***DK312-90***
8	18.00 to 40.70	***DK312-45***	***DK312-95***

*Sufficient to replenish one tubing assembly.

Liquid dispensing pumps – *see PX700/PX705.*
Syringe pumps – *see PX890.*



DK282-11 to -17 on reservoirs



DK312 in use

Dissecting Boards

Dissecting Boards
Dimensions are length x width.

	Dimensions, mm
Wood	
DS100-15	560 x 380
Polypropylene	
DS110-10	300 x 210

Dissecting Dishes
Stainless steel, shallow and deep form, sizes up to 650 x 275mm – *see Instrument Trays in the Medical section.*

Awl
Stainless steel spike in aluminium handle. Spike length 28mm.
DS115-10 Awl

Scalpels and Razors

Post-Mortem Blade, Swann-Morton
Heavy duty carbon steel. Fixes to accessory handle with screw fitting. Individually wrapped in pack of 10.
DS250-15 PM Blade

Handle, metal with screw fixing
DS252-08 PM Handle

Scalpel/Tool Set, Swann-Morton
Comprising slotted plastic handle with clamping screw and one each No. 1 straight edge and No. 2 convex curved edge blades.
DS260-10 Tool Set

Blades. Supplied in packs of 50.
DS262-12 No. 1 straight
DS262-14 No. 2 convex curved
DS262-16 No. 3 concave curved

Scalpels
Solid forged with handle and polished blade as indicated. Dimension given is the blade length.

	Blade, mm
Carbon steel	
DS325-30	30
DS325-35	35
DS325-45	45
DS325-50	50
Stainless steel	
DS330-30	30
DS330-35	35
DS330-45	45
DS330-50	50

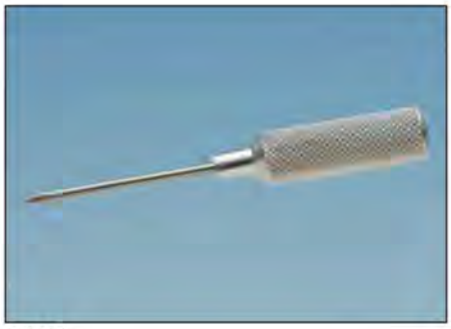
Section Razor
Stainless steel blade housed in a black handle.
DS350-10 Razor

Razor Blades, single edge
Light duty. Single edge carbon steel, aluminium backed with no notches. For industrial and laboratory use only. Overall dimensions 39 x 19mm. Supplied in pack of 100.
DS360-10 Single edge

Razor Blades, double edge
Light duty. Double edge stainless steel. For industrial and laboratory use only. Overall dimensions 39 x 19mm. Supplied in pack of 100.
DS360-20 Double edge

Swann-Morton scalpel blades and handles – *see following page.*


DS100


DS115


DS350

DS360-10
DS360-20


DS110



Swann Morton Scalpels, Blades and Handles

Sterile and non-sterile carbon steel and stainless steel disposable blades with permanently fitted plastic handle or for use with a choice of reuseable metal handles. Sterilisation is by gamma irradiation.

Blade *illustration (not to scale)*	Blade No.	**Disposable Scalpels** Stainless steel blade, with plastic handle. **Non-sterile** Length 80mm. Supplied singly.	**Sterile** Length 135mm. Individually wrapped. Packs of 10.	**Disposable Blades** Carbon steel. To BS2982, EN27740. Without handle. **Non-sterile** 5 blades in a foil wrap. Packs of 100.	**Sterile** Individually foil wrapped. Packs of 100.
	6	—	—	DS180-06	DS185-06
	9	—	—	DS180-08	DS185-08
	10	DS150-10	DS160-10	DS180-10	DS185-10
	10a	—	DS160-15	DS180-15	DS185-15
	11	DS150-20	DS160-20	DS180-20	DS185-20
	12	—	DS160-25	DS180-25	DS185-25
	14	—	—	DS180-27	DS185-27
	15	DS150-30	DS160-30	DS180-30	DS185-30
	15a	—	—	DS180-32	DS185-32
	16	—	—	DS180-34	DS185-34
	20	—	DS160-40	DS180-40	DS185-40
	21	—	DS160-45	DS180-45	DS185-45
	22	—	DS160-50	DS180-50	DS185-50
	22a	—	DS160-55	DS180-55	DS185-55
	23	—	DS160-60	DS180-60	DS185-60
	24	—	DS160-65	DS180-65	DS185-65
	25	—	—	DS180-70	DS185-70
	26	—	—	DS180-75	DS185-75
	27	—	—	DS180-80	DS185-80

Note: Blade Nos 6 to 16 require handle 3, 3L, 7 or 9. Blade Nos 20 to 27 require handle 4 or 4L.





DS205

Handles

Stainless steel. For use with DS180 and DS185 blades as specified. Supplied singly.

	Handle
DS197-10	No. 3
DS197-15	No. 3L
DS197-20	No. 4
DS197-25	No. 4L
DS197-30	No. 7
DS197-35	No. 9

Surgical Blade Removers

For the safe removal and disposal of blades from handles. Accommodates all Swann Morton blades and handle fitments. Available in sterile or non-sterile packs as indicated.

DS205-10 Non sterile, pack of 100
DS205-20 Sterile, pack of 50

Swann-Morton Post-Mortem blades and handle – *see previous page.*

Dissecting

Scissors

Scissors, Fine point
Stainless steel. Supplied singly.

	Overall length, mm
Straight open shanks	
DS450-15	112
DS450-20	125
DS450-25	150
Straight closed shanks	
DS455-10	105
Curved open shanks	
DS460-15	112
DS460-20	125
DS460-25	150

Scissors, blunt
Stainless steel. Straight, closed shanks.
DS480-20 125

Scissors, general purpose
Stainless steel. Straight, closed shanks.
DS500-20 125
DS500-25 150
DS500-30 175

Bone Cutter
Carbon steel. Sprung. Blade length 20mm. Overall 120mm.

	Description
DS520-10	Bone cutter

Oilstone
Fine grade. For honing scalpels and razors. Approximately 200 x 50 x 25mm thick.
DS525-10 Oilstone

Scissors, heavy duty - *see TS285-12.*

Chains and Needles

Chains and Hooks
Three on one ring. Nickel plated.
DS580-10 Chains & hooks

Section Lifter
Stainless steel. Blade length 55mm.
DS590-20 Lifter

Seekers
Stainless steel bent, blunt probe in handle. Supplied singly.

	Handle type
DS605-15	Plastic
DS605-20	Stainless steel

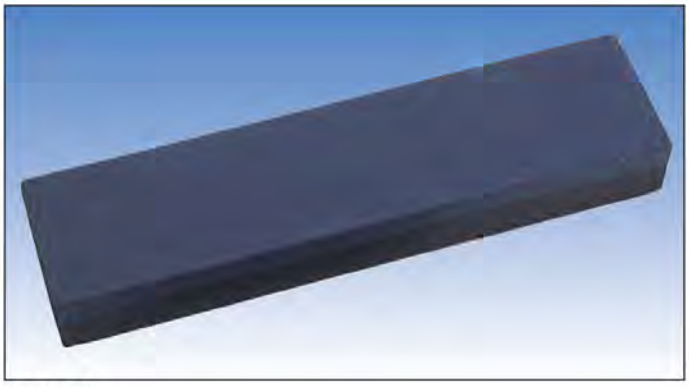
Needles
Stainless steel, straight in handle. Supplied singly.

	Handle type
DS620-10	Wood
DS620-20	Stainless steel

Needle, Borradaile
Stainless steel single edge blade in aluminium handle. Blade length 30mm.
DS625-15 Borradaile



DS450 ***DS455*** ***DS460*** ***DS480***



DS525-10



DS500



DS520 ***DS580*** ***DS590***



DS605 ***DS620-10*** ***DS620-20*** ***DS625***

Dissecting

Forceps

Dimension given is overall length.

Forceps, PMP
With fine tooth grips

Sharp ends
DS700-10 115mm
DS700-20 145mm
DS702-25 180mm

Blunt ends
DS702-30 250mm

Forceps, fine point
Stainless steel sprung flutes with guide pin.

Straight
DS710-10 115mm
DS710-15 125mm
DS710-20 150mm

Curved
DS712-10 115mm
DS712-15 125mm

Forceps, blunt
Stainless steel sprung, straight flutes. No guide pin.
DS725-10 115mm
DS725-15 125mm
DS725-20 150mm

Forceps, Polypropylene, Nalgene
Autoclavable to 121°C. With double hinge for extra leverage, blunt tips with interlocking teeth and ratchet handles to lock tips shut. Overall 120mm. Supplied in packs of 12.

	Ref. 6320-
DS727-15	-0010

Forceps, entomological
Stainless steel sprung curved flutes with broad ends and guide pin.
DS730-15 120mm

Forceps, watchmakers
Very fine points. Stainless steel sprung flutes, length approximately 120mm.
DS740-10 No. 3
DS740-15 No. 4
DS740-20 No. 5
DS740-25 No. 7

Forceps with spatulate ends for handling microscope slides – *see Microscopy section.*

Folding Magnifiers for specimen examining – *see Magnifiers section.*

Dissecting Sets

Dissecting Set
Comprising items as below in a canvas roll wallet with tape ties. All instruments stainless steel unless otherwise stated.

2 only solid scalpels
1 only needle (wood handle)
1 only seeker (wood handle)
1 pair forceps, blunt, 125mm
1 pair forceps, sharp, 115mm
1 pair scissors, fine, 115mm
1 pair scissors, blunt, 125mm
1 only section lifter (aluminium)
1 only section razor (carbon steel)
1 only fine brush
DS840-15 Set

Dissecting Set
As DS840-15 but with one each scalpel handles Nos. 3 and 4 and 20 blades to fit in place of the solid scalpels.
DS840-30 Set
DS840-75 Spare canvas roll wallet

Specimen Examination

Other items of interest can be found in other sections of this catalogue – *see:-*

Mixers section for Homogenisers.

Microscope section for high magnification examination.

Histology, Microscopy sections for staining, section mounting and wax embedding facilities.



DS700 DS702 DS710 DS712 DS725 DS730



DS740-10 DS740-15 DS740-20 DS740-25



DS727-15



DS840-15, DS840-30 is similar

Hand Held Waterproof Model 970

JENWAY

- Waterproof casing complies with IP67 resistance standard
- Selectable % dissolved oxygen or oxygen concentration (mg/l) ranges
- Stored value recall function
- Backlit LCD with simultaneous parameter and temperature readout
- Automatic temperature compensation, pressure and salinity correction factors can be entered manually
- Battery life approximately 500 hours

Catalogue No.		***DT250-20***
Model		970
Ranges (Resolution)	*DO_2*	-5 to 199% (1%) -5 to 25.0% (0.1%)
	O_2 Conc.	-5 to 19.99mg/l (0.01mg/l)
	temperature	-10 to +105°C/+14 to +221°F (0.1°C/1°F)
Accuracy	*DO_2, O_2 Conc.*	±2% within 10°C of calibration temperature
	temperature °C	±0.5
ATC range	*°C*	0 to 60 (32 to 140°F)
Input		Mini-DIN
Overall	*mm*	175 x 75 x 35
Weight	*g*	250

DO_2 Meter 970, Jenway
As described. With DO_2/ATC probe on lead, carrying case, 2 x 1.5V AA batteries, spare membranes, KCl solution and zero powder.

DT250-20 Model 970 with case

Accessories & Spares

DT252-09 DO_2/ATC probe
DT202-09 Membrane set
DT202-15 BOD attachments 2.5°

BL610-15 Battery 1.5V AA (2 required)



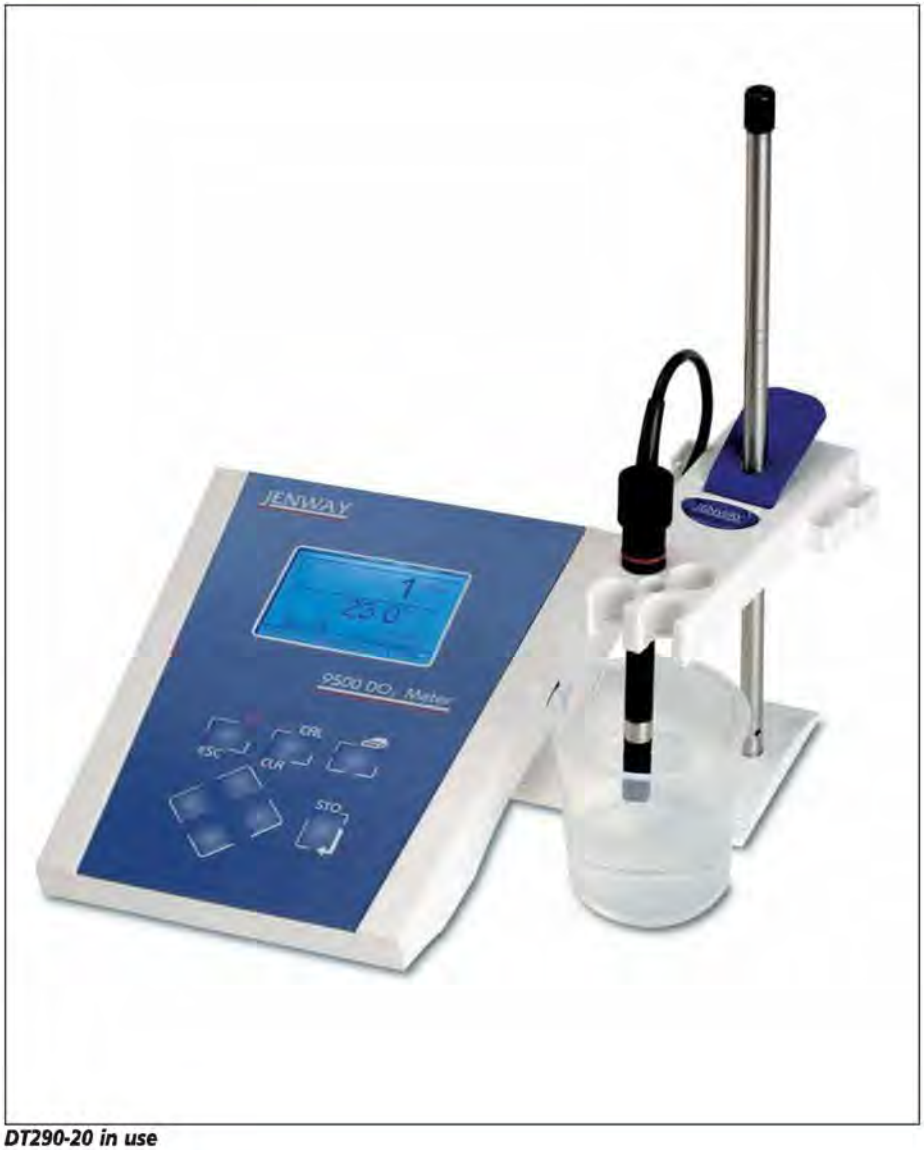
DT250-20

Bench Model 9500

JENWAY

- Back-lit LCD graphics display
- Atmospheric pressure and salinity compensation values can be entered for correction of results
- BOD capability
- Multi-language operation
- Real-time clock with time stamping of results and calibration reminder ensure compliance with GLP (Good Laboratory Practice)
- 500 reading memory which can store manually, at timed intervals, or alarm events, plus twenty five BOD results (in batches of 10 samples)
- Infra-red data link and separate bi-directional RS232 port

Catalogue No.		***DT290-20***		
Model		9500		
		Ranges	*Resolution*	*Accuracy*
Dissolved oxygen	*%O_2*	0 to 199	1	±2% within 10°C
		0 to 25.0	0.1	of calibration
	mg/l	0 to 19.99	0.01	temperature
Temperature	*°C*	–10 to +60	0.1	±0.5
	°F	+14 to +140	1	±1
Temp. comp. ranges °C (°F)		0 to +60 (+32 to +140), manual and automatic		
Alarm points		0 to 19.99mg/l		
Overall H x W x D	*mm*	55 x 210 x 250		
Weight	*kg*	0.85		



DT290-20 in use

Dissolved Oxygen Meter, Model 9500, Jenway

As described. Supplied with probe with built-in ATC, spare membranes, KCL filling solution, zero powder, swing-arm electrode holder, instruction manual and mains adapter. A 230V 50Hz supply is required for the adapter.

DT290-20 Model 9500

Spares and Accessories

DT292-11 DO_2 electrode with ATC
DT202-09 Membrane set
DT202-10 Zero powder

CU656-25 IrDA or serial connection printer. Supplied with one roll of thermal paper, serial connection lead, power supply and power connection lead
CU656-27 Thermal paper roll, pack of 1

Models HI-9142 and HI-9146

HANNA

Waterproof, microprocessor controlled dissolved oxygen meters designed for on-site applications, especially waste water treatment monitoring and fish farming.

- Auto-calibration by saturated air recognition
- Direct readout in ppmO_2 (HI-9146 additionally has a separately selectable % saturation readout and simultaneous temperature readout)
- Polarographic dissolved oxygen probe with built-in temperature sensor
- Automatic temperature compensation
- Battery operated, with auto shut-off after 4 hours
- HI-9146 additionally includes backlit display feature, altitude and salinity compensation, on-screen user guidance and GLP features.

Catalogue No.		***DT310-05***	***DT330-15***
Model		HI-9142	HI-9146
Range x resolution	*ppmO_2*	0 to 19.9 x 0.1	0 to 45 x 0.01
	%O_2	—	0 to 300 x 0.1
	temperature °C	—	0 to +50 x 0.1
Accuracy	*ppm%O_2*	1.5% of full scale — both models	
	temperature °C	—	±0.5
Calibration		Manual, 2 point	Automatic in saturated air
Power		4 x 1.5V, AA batteries	3 x 1.5V, AAA batteries
Dimensions	*mm*	196 x 80 x 60	185 x 72 x 36
Weight	*g*	500	300

DO_2 meters, Hanna
As described. With rugged carrying case, dissolved oxygen probe with 4m cable, batteries, spare membrane kit and 30ml electrolyte solution.

DT310-05 HI-9142
DT330-15 HI-9146

Spares

DT335-15 DO_2 probe with 4m cable
DT335-20 Replacement membranes, pack of 5
DT335-24 Electrolyte solution, pack of 30ml
BL610-08 1.5V AAA battery (3 required for DT330-15)
BL610-15 1.5V AA battery (4 required for DT310-05)

Model HI-93732 Colorimeter

HANNA

Portable colorimetric dissolved oxygen meter which takes measurements using a modified Winkler method. In operation the sample is placed in a cuvette provided. The cuvette with sample is inserted into the meter and the zero key selected to calibrate the meter. Then accessory reagents are added drop-wise to the sample to generate the colour for reading. The intensity of the colour is dependent on the dissolved oxygen level. Readings are unaffected by the temperature change, salinity or probe health factors normally affecting polarographic measurement systems.

- Easy to operate
- Low cost per test
- Maintenance free system
- Long life LED light source operating at 430nm
- Battery operated, with auto shut-off after 10 minutes

Catalogue No.		***DT365-10***
Model		HI-93732
Range x resolution	*mg/l*	0 to 10.0 x 0.1
Accuracy (at 20°C)	*mg/l*	±0.2 ±3% of reading
Power		1 x 9V, PP3 battery
Dimensions	*mm*	180 x 83 x 46
Weight	*g*	290

Portable DO_2 Colorimeter, HI-93732, Hanna
As described. With 60ml capacity BOD sample bottle, two cuvettes, 9V PP3 battery and instructions. Without reagents.

DT365-10 HI-93732

Accessories and Spares

DT369-06 Reagent kit for dissolved oxygen, 100 tests
DT369-12 Spare measurement cuvettes, pack of 4
BL610-25 Spare battery, 9V PP3



DT310-05



DT330-15



DT365-10, with accessories

Anti-Bumping Granules

Glass beads
Soda lime glass. Approximate diameters as indicated. Supplied in packs of 1kg.

DT984-02	2mm
DT984-03	3mm
DT984-04	4mm
DT984-05	5mm
DT984-06	6mm
DT984-08	8mm
DT984-10	10mm

Boiling stones
PTFE. Prevent chemical splashes and "bumping" when boiling solutions. Supplied in resealable packs of 500g. Granule sizes stated are approximate.

DT985-10	4mm granules
DT985-20	6mm granules



DT984



DT985

Glass Distillation Receiver BS658

Glass Distillation Receiver
Pyrex Glass. Class B. To BS658.

Type 1 Crow pattern

	Ref.	Cap. ml
CY750-10	Pyrex 3400/04	100

Glass Distillation Flasks

Flasks, Pyrex 1280/1290 series
Distillation. Side arm set at 75° to vertical axis and positioned to suit a 76mm partial immersion thermometer.

	Ref.	Cap. ml
General purpose		
FK525-35	1280/14	500
To ASTM E133		
FK527-24	1290/02	100
FK527-26	1290/04	125
FK527-30	1290/06	250

Distillation Assemblies for petroleum products – *see Petroleum section.*

Distillation Thermometers to IP and ASTM – *see Thermometers section.*



CY750



FK525, FK527

Draining Racks

Draining Rack, Azlon

Wall mounting. Epoxy coated steel with 8 pegs 110mm long and 24 pegs 80mm long for holding flasks, cylinders, etc. Overall 410 x 300mm.

DY110-10 Rack only
DY110-27 Rack with integral free standing support

Draining Racks, Bürkle

Wall mounting. Rigid PVC backboard drilled with holes to take interchangeable clip-in pegs in a variety of lengths as indicated. Available in a choice of sizes with, or without, draining trough with nozzle for attaching 4mm i.d.tubing. Supplied with pegs, screws and dowels for fitting.

	Rack W x H, mm	*Pegs supplied* 60mm	100mm	150mm
With draining trough				
DY116-40	400 x 400	5	26	2
DY116-50	500 x 500	10	39	4
DY116-60	600 x 600	15	56	6
Without draining trough				
DY119-40	400 x 400	5	26	2
DY119-50	500 x 500	10	39	4
DY119-60	600 x 600	15	56	6

Spare pegs are available separately – *details on request.*



DY110 in use



DY116 in use



DY150 in use

Dryer, Drying Cabinets

Dryer, Nelldorn

Bench, or wall mounting. For drying flasks, cylinders etc. Compact metal frame with base mounted heater and fan which blows hot, filtered air through 60 stepped plastic nozzles of varying length. With heat controls, 120 minute timer and overheat cut-out. Overall including tubes 490 x 190 x 430mm W x D x H. For 220-240V 50Hz single phase supplies; 2.1kW.

DY150-20 Nelldorn Dryer
DY152-05 Spare filter, pack of 1
DY152-11 Spare 75mm plastic nozzle, pack of 1

Drying Cabinets

For general warming and drying purposes, including drying of drained glassware. OV100-11 and OV100-21 are additionally fitted with fibre insulation which reduces energy requirements giving a performance saving of more than 30% against the non insulated models.

- Maximum temperature is approximately ambient +50°C

Catalogue No.		**OV100-11**	**OV100-14**	**OV100-21**	**OV100-25**
Capacity	*litres*	100	125	200	250
Internal	*H, mm*	400	430	490	520
	W, mm	670	720	930	980
	D, mm	370	400	450	480
Overall	*H, mm*	600	600	660	660
	W, mm	750	740	1000	1000
	D, mm	420	420	500	500
Weight		45	40	60	55
Shelves		3	3	3	3
Power rating	*W*	500	1000	1000	1000
Voltage		For 220-240V 50Hz single phase supplies.			

OV100-11 100 litres, sliding door, insulated
OV100-14 125 litres, sliding door
OV100-21 200 litres, sliding door, insulated
OV100-25 250 litres, sliding door

Glassware Washing

Automatic washers – *see Washing section.*
Detergents etc – *see Cleaning and Brushes sections.*
Ultrasonic baths – *see Ultrasonics section.*



OV100

Electrical Sundries

Crocodile Clips
For low voltage use. Spring loaded serrated jaws. With screw lead connection. Length approximately 40mm. Supplied in a pack of 10.

EE100-17 Clips

Wire, bare
For low voltage use. In reels. All data below is nominal.

	s.w.g.	Diameter mm	Reel weight, g
Copper			
EE140-20	20	0.90	250
EE140-22	22	0.71	250
Constantan (Eureka)			
EE147-20	20	0.90	125
EE147-22	22	0.71	125
Nickel Chromium (80%/20%)			
EE151-20	20	0.90	125
EE151-22	22	0.71	125
EE151-24	24	0.56	125
EE151-26	26	0.45	125
EE151-28	28	0.37	125

Plug, UK 13A
Moulded plastic body with 3-pins, cable restrainer and 13A fuse. To BS1363.

EE300-10 Plug

Adapter plugs
Enable instruments with UK 13A 3-pin plugs to be operated from international supply sockets as indicated*. Maximum current 7.5A. Supplied singly.

EE305-06 2 round pin Schuko, for use in most continental European countries

EE305-08 2 flat pin with angle adjustment, for use in USA*, Canada*, Japan*, Australia and New Zealand

* The instrument itself must have built-in voltage adjustment to enable operation on the local supply.

Multiple Socket Outlet
4-position, UK 13A sockets to BS1363. With indicator lamp and 13A fuse.

EE330-10 Multi-socket

Educational Ammeters and Voltmeters
Ruggedly constructed compact d.c. meters with high electrical and mechanical stability. Accuracy ±4%. With uniform scales, clear plastic cases and captive 4mm socket terminals. Overall 80 x 100 x 48mm. Weight 200g.

EE370-10 Ammeter 0 to 1A d.c.
EE370-20 Ammeter 0 to 2A d.c.
EE370-30 Ammeter 0 to 5A d.c.

EE370-60 Voltmeter 0 to 6V d.c.
EE370-80 Voltmeter 0 to 15V d.c.

Digital Multi Meter 33XR
Pocket sized multi meter with LCD readout including analogue bar graph of reading position within range,rotary click-stop range selection switch, fuse protection, input alarm when test leads are incorrectly fitted and a continuity test buzzer for short circuit testing.

Model			33XR
Ranges	*Voltage*	*d.c.*	400mV, 4V, 40V, 400V,1000V
	Voltage	*a.c.*	400mV, 4V, 440V, 400V,750V
	Current	*a.c.*	400µA, 4mA, 40mA, 300mA, 10A
	Resistance		400 , 40k , 4M
	Capacitance		4µF, 40µF, 400µF, 4000µF
	Temperature		-20 to +1000°C (-40 to +1832°F)
	Frequency		4kHz, 40MHz, 400MHz
Continuity indication			<35
Overall H x W x D		*mm*	196 x 92 x 60
Weight		*g*	400

As described. Supplied with test leads, threaded crocodile clips, Type K thermocouple probe and lead for temperature measurement and 9V PP3 battery.

EE390-50 33XR
BL610-25 Spare battery, 9V

Other Electrical Sundries
Batteries – *see BL610.*
Hot air blower – *see HE775.*
Soldering kit – *see TS480.*
Pliers – *see TS200.*
Screwdrivers – *see TS350.*
Warning labels – *see SC300/SC304.*


EE100


EE140/151


EE300


EE330


EE305-06 **EE305-08**


EE370 series



EE390

Electrothermal Power Controllers

Controller, MC227
Bimetallic, non-linear controller for controlling up to 1200W load, maximum current 5A. With arbitrary scaled controls and an amber neon on the output circuit. Supplied with flying leads for input and output connection. The case has a wing screw fitting for mounting the controller on a 12.7mm diameter retort/scaffolding rod. Overall 240 x 140 x 90mm W x D x H. For 200-250V 50/60Hz a.c. single phase supplies.

EE500-20 MC227

Controller, MC242
A single circuit percentage on/off controller for circuit loads up to 2000W. With arbitrary scaled control, 'power on' and 'power output' indicator lamps. For 230V 50/60Hz a.c. single phase supplies.

EE500-60 MC242

Digital Temperature Controller
For accurate temperature control. Membrane switch setting with 3 digit LED display. Range –10 to +800°C x 1°C resolution. In addition an hysteresis range can be set to govern temperature variation. Memory retains control parameters even if power disconnected. Supplied with PTFE covered platinum resistance thermometer for measurement and control up to +270°C. Accessory probes extend range up to +800°C. Input connection by IEC socket and 2m cable.Output by fixed IEC socket. Overall dimensions L x W x H 120 x 100 x 80mm. The case has a wing screw fitting for mounting the controller on a 12.7mm diameter retort/scaffolding rod. For 200-240V 50/60 Hz single phase supplies.

EE500-75 MC810

Accessories and spares

EE502-10 270°C probe AZ6705, spare
EE502-15 400°C probe AZ6706
EE502-20 800°C probe AZ6741

Time Switches – *see TM850*



EE500-20



EE500-75



EE500-60

Horizontal Gel Units

Cleaver Scientific Ltd

Horizontal Gel Unit, miniRapide

Compact, self-contained system, ideal for rapid sample checks. Buffer and gel volumes have been minimised and parallel-format electrodes maximise current transfer efficiency, enabling resolution to be completed within 30 minutes. The complete unit can easily be placed on a transilluminator for visualisation reducing process time and potential damage to gels through removal from the tank and transfer.

- Gel size 10 x 8cm
- Robust UV transparent plastic construction
- Gel casting, running and analysis all performed in the unit
- Safety lid provides complete user protection
- Corrosion-free, gold-plated connectors and terminals
- User-replaceable platinum wire electrodes
- All power connectors recessed and shrouded

Horizontal Gel Unit, miniRapide

As described. Supplied with 2 eight-well, 1.5mm thick combs, and shrouded power supply leads. Requires power supply for operation.

EL225-10 miniRapide

Spare and accessories

EL227-03 Casting dams, pack of 2
EL227-06 Spare platinum wire for electrode replacement, 50cm long

Combs for EL225-10 only, 1.5mm thick, supplied singly.

EL227-12 1-well, with dye track
EL227-16 4-wells
EL227-20 8-wells

EL227-24 12-wells
EL227-28 16-wells*
EL227-32 20-wells*

*Suitable for use with multichannel pipettors.

Horizontal Gel Unit, multiSUB Midi

- Choice of models offering UV trays for gel sizes: 10 x 7cm, 10 x 10cm
- Robust, moulded, acrylic construction
- Large choice of combs
- Safety lid provides complete user protection

Models	*multiSUB Midi-*	7	10
Gel size	*cm*	10 x 7	10 x 10
Buffer volume	*ml*	300 — both models	
Overall, W x D x H	*mm*	220 x 125 x 90 — both models	

As described. Supplied with removable UV transparent, gel casting tray, loading guides and dams, two 16-well, 1mm thick combs and shrouded power supply leads. Requires power supply for operation.

EL232-15 multiSUB Midi 7
EL232-25 multiSUB Midi 10

EL232-86 Spare positive electrode
EL232-88 Spare negative electrode
EL232-91 10cm UV Gel scoop

Accessory combs for multiSUB Midi units only, supplied singly

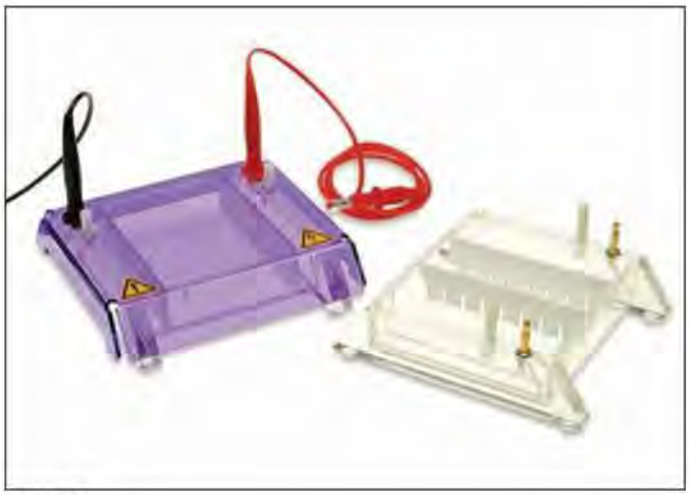
Thickness	*Number of Wells*			
mm	8	10*	12	16
1	***EL234-11***	***EL234-16***	***EL234-21***	***EL234-26***
1.5	***EL236-11***	***EL236-16***	***EL236-21***	***EL236-26***
2	***EL238-11***	***EL238-16***	***EL238-21***	***EL238-26***

*Suitable for use with multichannel pipettors.

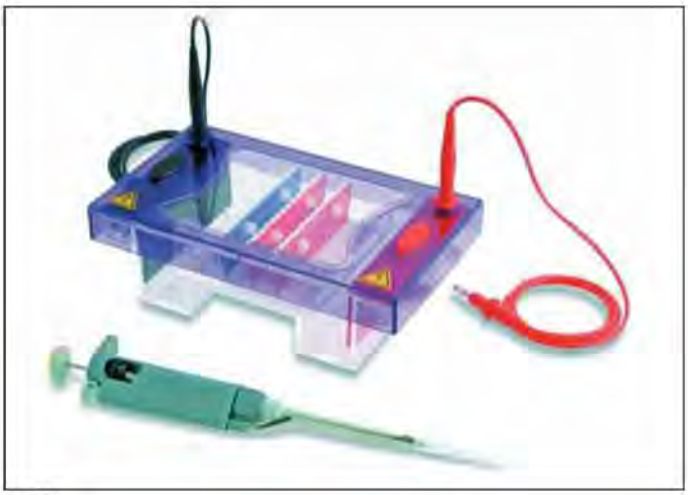
Gel dryers – *see EL335.*

Power supplies – *see EL345.*

Transilluminators – *see LM420.*



EL225-10



EL232

Horizontal Gel Units

Horizontal Gel Units, multiSUB Choice, 15cm wide

- Choice of models offering UV trays for gel sizes: 15 x 7cm, 15 x 10cm, 15 x 15cm
- Accessory platinum wire electrodes
- Robust, moulded acrylic construction
- Safety lid provides complete user protection

Models	*multiSUB Choice-*	7	10	15
Gel size	*cm*	15 x 7	15 x 10	15 x 15
Buffer volume	*ml*	500 — all models		
Overall W x D x H	*mm*	265 x 175 x 90 — all models		

As described. Supplied with removable UV transparent gel casting tray, loading guides and dams, two 20-well, 1mm thick combs and shrouded power supply leads. Requires power supply for operation.

EL239-10 multiSUB Choice 7
EL239-15 multiSUB Choice 10
EL239-20 multiSUB Choice 15
EL239-50 15cm UV Gel scoop

Accessory combs for multiSUB Choice units only, supplied singly

Thickness mm	*Number of Wells* 12	16	18*	28*
1	***EL242-12***	***EL242-17***	***EL242-18***	***EL242-28***
1.5	***EL243-12***	***EL243-17***	***EL243-18***	***EL243-28***
2	***EL244-12***	***EL244-17***	***EL244-18***	***EL244-28***

*Suitable for use with multichannel pipettors.

Horizontal Gel Units, multiSUB Maxi, 20cm wide

Generally as EL239-series but larger, with UV trays for gel sizes 20 x 10cm or 20 x 20cm.

Models	*multiSUB Maxi-*	10	20
Gel size	*cm*	20 x 10	20 x 20
Buffer volume	*ml*	1200 — all models	
Overall W x D x H	*mm*	395 x 230 x 90 — all models	

As described. Supplied with removable gel casting tray, loading guides and dams, two 20-well, 1mm thick combs and shrouded power supply leads. Requires power supply for operation.

EL245-30 multiSUB Maxi 10
EL245-50 multiSUB Maxi 20
EL245-86 Spare positive electrode
EL245-88 Spare negative electrode

EL245-91 20cm UV Gel scoop

Accessory combs for multiSUB Maxi units only, supplied singly

Thickness mm	*Number of Wells* 10	16	25	40*
1	***EL246-10***	***EL246-16***	***EL246-25***	***EL246-40***
1.5	***EL247-10***	***EL247-16***	***EL247-25***	***EL247-40***
2	***EL248-10***	***EL248-16***	***EL248-25***	***EL248-40***

*Suitable for use with multichannel pipettors.

Alternative comb configurations are available – *details on request.*

Transilluminators

Transilluminators, UVP TFM-V

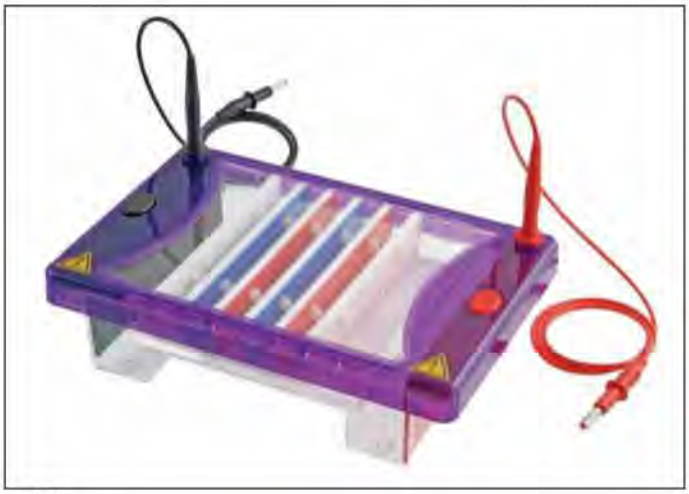
High performance, mid-range (302nm) transilluminators for viewing fluorescent materials or fluorescent-dyed samples within electrophoresis gels. With 25W tubes for high intensity performance and uniform background UV illumination. Variable intensity output allows either analytical documentation work or reduced photonicking or bleaching of gel samples during prep work, respectively. Robust sturdy construction with adjustable angle UV blocking cover to shield the operator from harmful UV radiation. Overall 486 x 337 x 143mm W x D x H. Weight 9kg. For 230V 50/60Hz a.c. single phase supplies.

	Model	*Filter size, cm*	*Tubes, W*
LM420-22	TFM-20-V	20 x 20	25
LM420-28	TFM-26-V	21 x 26	25
LM420-32	TFM-30-V	25 x 30	25
LM420-42	TFM-40-V	20 x 40	25

Note: Suitable eyewear must be worn when using these transilluminators – *see LM370.*



LM420



EL239



EL245

Vertical Gel Units, omniPAGE

- Choice of models:
  — for 10 x 10cm plates, gel size 7.5 x 8cm
  — for 20 x 20cm plates, gel size 16 x 17.5cm
- Up to four gels accommodated
- Accessory platinum wire electrodes
- Injection moulded acrylic construction
- Platinum wire electrodes
- Safety lid with one-way fitting provides user protection
- Glass plates with bonded spacers are included removing the need for manual spacer alignment
- Parallel clamping mechanism ensures even pressure into gel cassettes or glass plates, preventing lane distortion

Model		Mini	Maxi
Plate dim. W x D	*cm*	10 x 10	20 x 20
Gel dim. W X D	*cm*	7.5 x 8	16 x 17.5
Buffer volume min.	*ml*	250	1200
max.	*ml*	1200	5600
Overall	*H mm*	150	280
	W mm	190	260
	D mm	130	160

Alternative comb configurations and spacer sets are available – *details on request.*

Power supplies – *see EL340.*

Recirculating chillers – *see CL110.*

Vertical Gel Unit, omniPAGE Mini

As described. For up to four 10 x 10cm gels. Supplied with four plain glass plates with bonded 1mm thick spacers, one dummy plate, two 12-well 1mm thick sample combs, casting base with soft silicone seals, cover, shrouded power supply leads and a cooling gel pack which can be used to reduce running times and enhance resolution.

EL272-05 omniPAGE Mini
EL272-08 Accessory electroblotting module for EL272-05

Accessory combs for omniPAGE Mini units only, supplied singly

Thickness	*Number of Wells*			
mm	1†	8*	12	20
0.75	***EL272-12***	***EL272-14***	***EL272-16***	***EL272-18***
1	***EL272-20***	***EL272-22***	***EL272-24***	***EL272-26***
1.5	***EL272-28***	***EL272-30***	***EL272-32***	***EL272-34***
2	***EL272-46***	***EL272-48***	***EL272-50***	***EL272-52***

† With additional dye track. *Suitable for use with multichannel pipettors.

Vertical Gel Unit, omniPAGE Maxi

As described. For up to four 20 x 20cm gels. Supplied with four plain glass plates with bonded 1mm thick spacers, one dummy plate, two 24-well 1mm thick sample combs, casting base with soft silicone seals, cover and shrouded power supply leads.

EL274-20 omniPAGE Maxi
EL274-27 Accessory electroblotting module for EL274-20

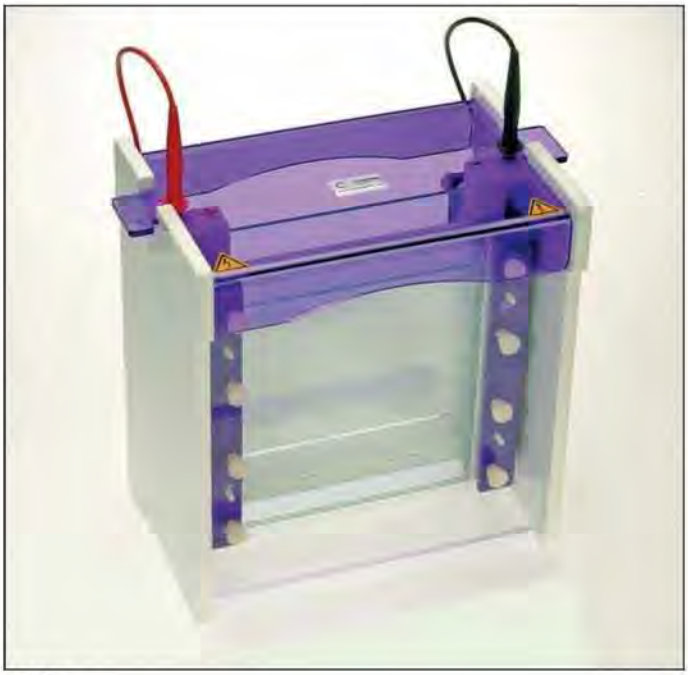
Accessory combs for omniPAGE Maxi units only, supplied singly

Thickness	*Number of Wells*			
mm	1†	10	18*	30
0.75	***EL274-33***	***EL274-37***	***EL274-40***	***EL274-43***
1	***EL274-45***	***EL274-49***	***EL274-52***	***EL274-55***
1.5	***EL274-57***	***EL274-61***	***EL274-64***	***EL274-67***
2	***EL274-69***	***EL274-73***	***EL274-76***	***EL274-79***

† With additional dye track. *Suitable for use with multichannel pipettors.



EL272



EL274

Large Format Vertical Electrophoresis Units

Cleaver Scientific Ltd

Ideal for a variety of large format gel application, including DNA sequencing, 2-D analysis, micro-satellite analysis, DNA fingerprinting, gel shift assays, single-strand conformation polymorphism (SSCP), heteroduplex and oligonucleotide analysis.

- Choice of models offering gel sizes:
  — 20 x 50cm — 33 x 45cm
- Robust acrylic construction
- Ultra-soft seals ensure that an even, parallel pressure is applied to the gel plate
- Integral aluminium heat sink plate providing enhanced resolution and even sample migration
- Low or high buffer volumes possible for economy or extended run use, respectively
- Corrosion-free, gold-plated connectors and terminals
- Platinum wire electrodes with assymetric offset fitting to prevent accidental polarity reversal

Model			CSQ20	CSQ33
Gel size		*cm*	20 x 50	33 x 45
Buffer volume				
	min.	*ml*	500	800
	max.	*ml*	1000	2000
Overall	*Height*	*mm*	550	500
	Width	*mm*	300	450
	Depth	*mm*	160	160

Large Vertical Gel Units

As described. Supplied with integral aluminium heat sink plate, gel casting module, two each notched and plain float glass plates, one set of 0.35mm thick spacers and one 48-well 0.35mm thick sharks tooth comb. Require power supply for operation.

EL305-10 CSQ20
EL305-20 CSQ33

Alternative comb configurations and spacer sets are available – *details on request.*

Power supplies – *see EL340.*

Accessory combs for CSQ20 only, supplied singly

	Wells	*Thickness, mm*	*Well vol. µl**
Sharks tooth			
EL306-03	24	0.25	7
EL306-06	48	0.25	3
EL306-09	24	0.35	40
EL306-12	48	0.35	20
Square tooth			
EL306-15	24	1.00	7
EL306-18	48	1.00	9
EL306-21	24	1.50	35
EL306-24	48	1.50	20

*Sample volume for a 5mm thick gel.

Spacer sets and spare glass plates for CSQ20 only

Spacer sets

EL306-60 0.25mm thick
EL306-64 0.35mm thick
EL306-68 1.00mm thick
EL306-70 1.50mm thick

Glass plates

EL306-75 Glass plates, notched, pack of 2
EL306-77 Glass plates, plain, pack of 2

Accessory combs for CSQ33 only, supplied singly

	Wells	*Thickness, mm*	*Well vol. µl**
Sharks tooth			
EL309-04	48	0.25	9
EL309-07	96	0.25	5
EL309-10	48	0.35	60
EL309-13	96	0.35	30
Square tooth			
EL309-16	48	1.00	9
EL309-19	80	1.00	6
EL309-22	48	1.50	50
EL309-25	80	1.50	30

*Sample volume for a 5mm thick gel.

Spacer sets and spare glass plates for CSQ33 only

Spacer sets

EL309-60 0.25mm thick
EL309-64 0.35mm thick
EL309-68 1.00mm thick
EL309-70 1.50mm thick

Glass plates

EL309-75 Glass plates, notched, pack of 2
EL306-77 Glass plates, plain, pack of 2



EL305

omniGELDRYERS

Cleaver Scientific Ltd

Versatile, efficient gel dryer systems with heating membrane and provision for accessory vacuum pump connection.

- Choice of models for gel sizes up to:
  - — 21 x 31cm L x W - Model GDVH21
  - — 35 x 45cm L x W - Model GDVH35
- Drying temperature range ambient to +90°C
- Digital set and read displays for temperature and time (heat and vacuum)
- Timer setting 1 to 999 minutes with alarm at end of timed period
- The pump timer can switch off the pump separately after the heating period has elapsed
- Cast aluminium base assists even heat distribution

Gel Dryers

As described. Supplied with stainless steel screen, rubber overlay sheet, mask and power supply lead. Overall W x D x H 300 x 360 x 80mm (GDVH21), 440 x 500 x 8mm (GDVH35), weight 2.5kg. For 230V 50Hz single phase supplies. Require, but do not include, vacuum pump for operation.

EL335-60 GDVH21
EL335-80 GDVH35

Suitable pumps for use with EL335-series - *see PX443-22, PX474-75 or PX447-30.*



EL335-60, EL335-80 is similar

Electrophoresis Power Supplies

Easy-to-use power supplies for routine electrophoresis applications.

- Fully programmable, up to 9 programmes each with 9 parameter sets can be stored in non-volatile memory
- Integral timer with alarm at end of run
- Automatic run continuation when power restored
- Twin line, alphanumeric LCD readout, 2 x 16 characters
- Datalogging facility holds up to 3600 values (voltage, current and power, time or volthours) including programme number and step
- RS232 control port allows remote control via users' PC

Safety features

- Automatic disconnection of a.c. power from the high voltage transformer if a ground leakage of greater than 500µA is detected
- Fully protected against any overload condition including accidental short circuit of the output
- High voltage increases smoothly when one of the pre-set limits is reached, no sudden voltage surge occurs at the outputs
- Galvanic RS232 input/output insulation prevents ground loop interferences when connected to a computer

Model	EV243	EV233/EV262	EV265/EV215
Timer	0 to 99 hours 59 minutes, 0 to 99.9 KVh — all models		
Programmes	9 sets of 9 parameters — all models		
Outputs	3 in parallel 4mm sockets	4 in parallel 2mm sockets	4 in parallel 4mm sockets
No load detection	On/off, programmable — all models		
Overall W x D x H mm	240 x 200 x 130	310 x 260 x 150	310 x 260 x 150
Weight kg	3	10	10

Power Supplies, EV200 Series

As described. Constant voltage, current and power. For 210-250V 50/60Hz single phase supplies. Supplied with manual and mains lead. Models EV233 and EV262 are additionally supplied with four pairs of 2mm/4mm adapters.

	Model	*V*	*mA*	*W*
EL345-10	EV243	400	300	50
EL345-20	EV233	3000	300	300
EL345-30	EV262	6000	150	300
EL345-40	EV265	600	500	150
EL345-50	EV215	1200	500	300



EL345

Gel Documentation System, microDOC

- 10 megapixel digital camera
- Lightweight hood with switched access door which turns on the internal lighting and can switch off the transilluminator if required
- Separate power and light switches
- Fitted with ethidium bromide filter
- Includes flash card and reader for file transfer to the users' PC, if required

Gel Documentation system, microDOC
Simple, low-cost, gel documentation system with built in 8" TFT colour LCD screen which allows use without the need for a separate computer. A variety of images can be captured from agarose and other fluorescent gels, colorimetric gels, autoradiography film and blotting membranes.

Camera specifications

Effective pixels		10,000,000
Sensor CCD		1/1.7 high density: total pixels 10 million
Max. field of view	*cm*	29 x 22
Resolution	*pixels*	640 x 480 to 3264 x 2448
Lens		5 x optical zoom / 4 x digital zoom, 8.9 to 71.2mm
Focal ratio		F/2.8 to F/4.5
File formats saved		RAW, Tiff-rgb, jpeg
Auto focus		Contract-detect through the lens (TTL) AF with AF-assist illuminator
Focus-area selection		Five-area multi AF, manual selection available
Filter		55mm ethidium bromide

Hood specifications

Dimensions, W x D x H	*mm*	290 x 220 x 320
Internal illumination		2 x white fluorescent tube lamps
Display		960 x 234mm colour TFT LCD screen
Display modes		NTC /PAL/SECAM mode, auto switching
Weight	*kg*	6.1

As described. Supplied with flash memory card, memory card reader and ethidium bromide filter. Without transilluminator. For 110-220V 50Hz single phase supplies.

EL380-10 microDOC system
EL380-65 SyBr green filter
EL380-67 Spare ethidium bromide filter

Transilluminators - *see LM420-series.*

Dyehard™ Stain

Protein Staining solution, Dyehard™
Coomassie Brilliant Blue stain which rapidly binds to the proteins within the gel, but not the gel itself, significantly reducing the time associated with traditional staining since the de-staining step is not required. The increased affinity for proteins allows detection down to 3ng levels, equivalent to silver stains. In addition, Dyehard™ is odourless, non-polluting and easily disposed of.

EL395-60 Dyehard™ stain, pack of 500ml
EL395-75 Dyehard™ stain, pack of 1 litre



EL380-10 in use on transilluminator



EL395

Clinical Cellulose Acetate Electrophoresis System

Cleaver Scientific Ltd

Compact, high resolution system for clinical electrophoresis and research applications, using both standard and wet cellulose acetate strips.

- Can accommodate gels up to 24 x 20cm
- Accessory software and flatbed scanner available for densitometry measurements

Horizontal Gel Unit
Comprises horizontal tank and cover with adjustable strip support for accommodating various cellulose acetate strip lengths. Supplied with shrouded power supply leads. Overall 300 x 300 x 60mm W x D x H.
EL400-10 CSL CELLAS

Glob AL Scan Software
Densitometry software for use with accessory scanner via the user's computer. Requires Windows-compatible computer and scanner for operation.
EL402-05 CSL DENS

Flatbed Scanner
For use with Glob AL scan software via the user's computer. For 230V 50Hz single phase supplies.
EL402-15 CSL SCAN

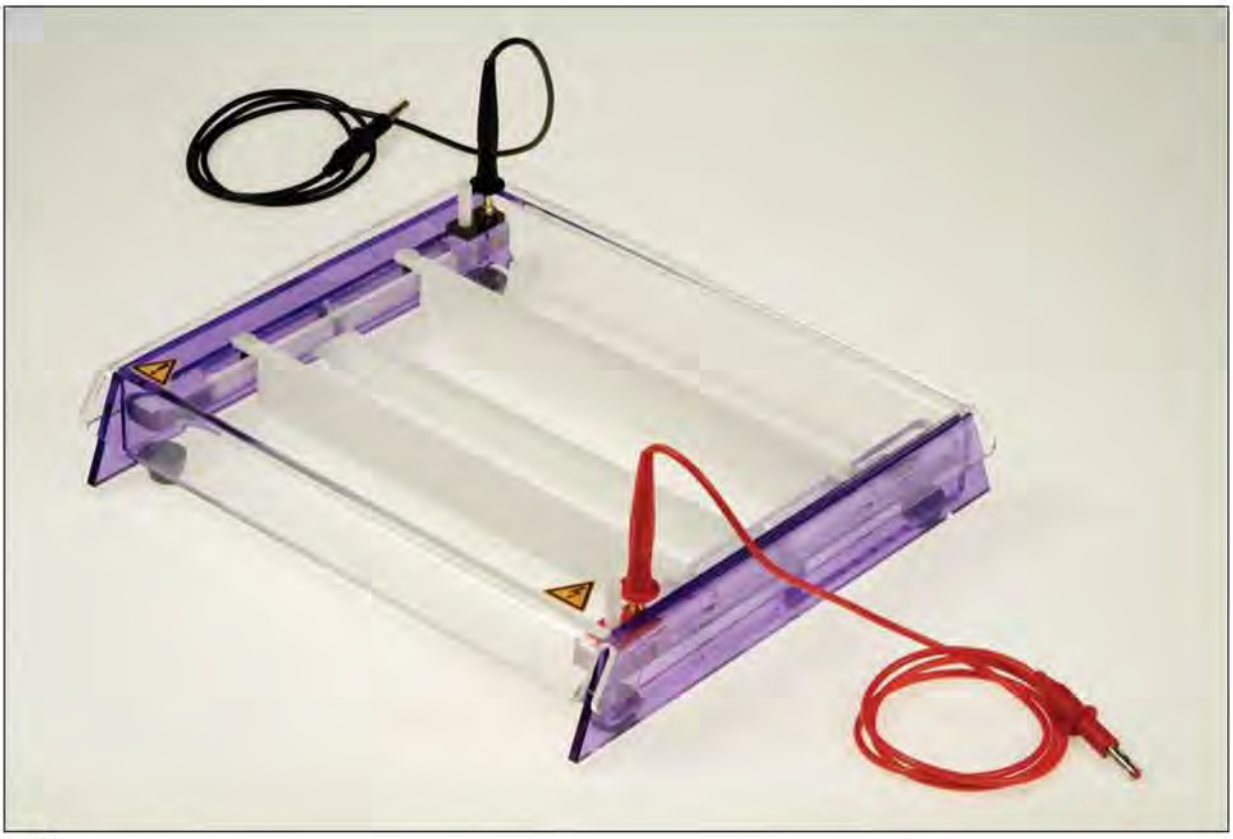
Gel Strips, CellasGel
Wet, cellulose acetate gel strips which can be used for a wide variety of clinical electrophoresis applications including haemoglobin serum proteins, urine proteins, iso-enzymes, lipo- and glycoproteins. Supplied in packs as indicated.

	W x L, cm	*Thickness, µm*	*Pack qty.*
EL402-22	2.5 x 14	250	100
EL402-24	2.5 x 14	200	100
EL402-26	2.5 x 17	200	25
EL402-33	5.7 x 14	250	25
EL402-35	5.7 x 14	200	25
EL402-50	17 x 17	200	10

Specimen Applicator, Micro 8
Applies up to 8 specimens simultaneously on one 5.7cm strip
EL402-75 Specimen applicator

Bridge Support
To hold CellasGel strips 2.5cm or 5.7cm wide.
EL402-80 Bridge support

Alternative gel strips and accessories are available - *details on request.*



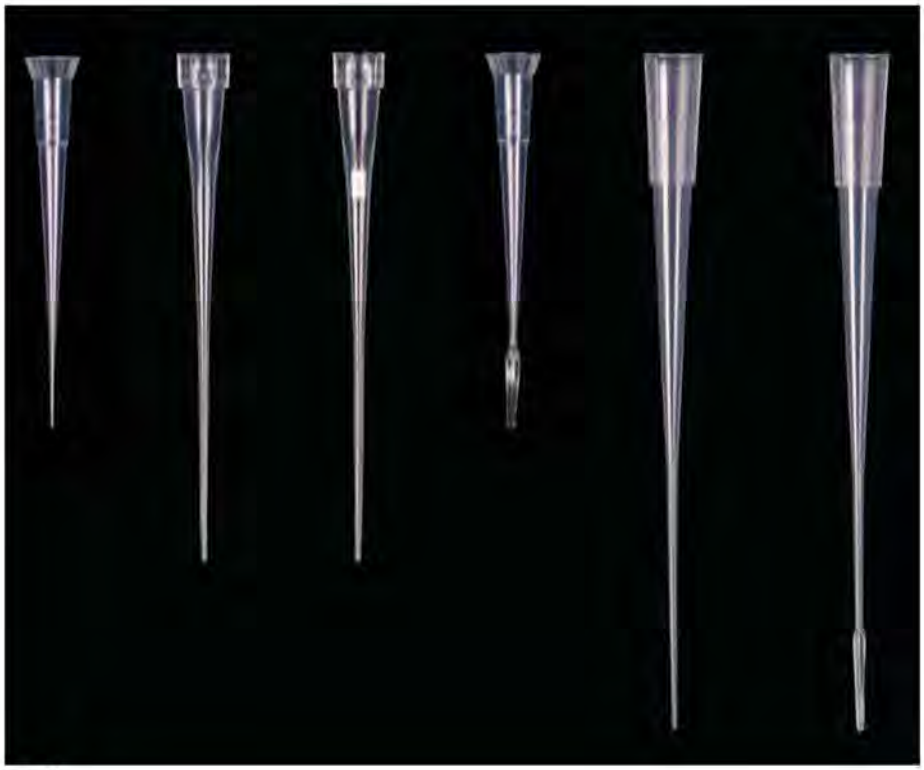
EL400

Gel Loading tips

For loading samples into acrylamide or agarose gels.

- Choice of tip profile:
  - — round, for loading SDS PAGE gels
  - — flat, for loading sequencing gels
- Long-nose for easier access to vessel bases and gel wells
- Natural polypropylene
- Check graduation at 2µl (10µl tips) or 5µl (200µl tips)
- Packed in racks as indicated

Cat. No.	*Tip*	*For use with pipettors*	*Pack quantity*
0.1-10µl capacity			
EL450-10	round	Biohit, Finnpiptte, Gilson P2/P10, Nichipet	2 x 200
EL450-20	round, extended	Biohit, Finnpiptte, Gilson P2/P10, Nichipet	5 x 204
EL450-30	round, extended, with filter	Biohit, Brand, Finnpipette, Gilson P2/P10, Nichipet, Socorex	5 x 204
EL450-40	flat	Biohit, Brand, Finnpipette, Gilson P2/P10, Nichipet, Socorex	2 x 200
5-200µl capacity			
EL450-65	round	Biohit, Eppendorf, Finnpipette, Brand, Gilson P20/P100/P200, Nichipet, Rainin, Socorex, Volac	2 x 200
EL450-75	flat	Biohit, Eppendorf, Finnpipette, Brand, Gilson P20/P100/P200, Nichipet, Rainin, Socorex, Volac	2 x 200



EL450

Rotary Evaporators RE-300 series

- Choice of versions:
  - — Standard diagonal condenser
  - — Vertical condenser for use where space is at a premium
  - — Cold finger condenser for use with dry ice or ice-salt mixtures
  - — Uncoated or polymer safety-coated glassware for additional safety during vacuum use
- Suitable for:
  - — Concentration of solutions at atmospheric or reduced pressure
  - — Reclamation of solvents
  - — Degassing of liquids
  - — Vacuum drying wet solids
- Sparkless induction motor
- Counterbalanced manual lift allows almost effortless operation

With solid-state control maintaining constant torque at all speed settings. In use, the material distilled only contacts glass or PTFE, avoiding contamination and corrosion problems. The vacuum seal is protected by a PTFE defence system. A feed tube adapter permits continuous addition of material to the rotating flask. All connections for water and vacuum are fitted with PTFE screwthread connectors for chemical and temperature resistance with quick, safe assembly. Speed range 20 to 190rpm. Achievable ultimate vacuum levels <1mm Hg. For 220-240V 50Hz single phase supplies.

Rotary Evaporator, Stuart, RE-300
With manual lift and diagonal condenser.

EV072-10 Evaporator RE-300
EV072-12 Evaporator RE-300P, plastic coated glassware

Rotary Evaporator, Stuart RE-301
With manual lift and vertical condenser.

EV072-25 Evaporator RE-301
EV072-27 Evaporator RE-301P, plastic coated glassware

Rotary Evaporator, Stuart RE-302
With manual lift and cold finger condenser incorporating drain tap.

EV072-36 Evaporator RE-302
EV072-39 Evaporator RE-302P, plastic coated glassware

Water Baths, Stuart RE-300DB and RE-300B
A choice of baths for use with water or oil. With digital, set and read, thermostatic control, from ambient up to maximum temperature indicated. A safety cut-out prevents overheating. For 230V 50/60Hz single phase supplies.

EV078-55 RE-300DB, water bath, 3 litres, maximum 95°C
EV078-65 RE-300OB, oil bath, 6.2 litres, maximum 180°C

Spares
EV074-11 Vapour tube, RE100/VT for angled condenser
EV074-13 Vapour tube, RE100/VT/CF for vertical and cold trap condensers

Standard glassware
EV074-15 Receiving flask, 1000ml, RE100/RF1L
QFD1L/4RE Rotating flask, Florentine shape, 1000ml
EV074-18 Angled condenser, RE100/CO
EV074-19 Vertical condenser, RE200/VC
EV074-20 Cold finger condenser, RE200/CF*

Plastic coated glassware
EV075-15 Receiving flask, 1000ml, RE100/RF1LP
EV075-18 Angled condenser, RE100/COP
EV075-19 Vertical condenser, RE200/VCP
EV075-20 Cold finger condenser, RE200/CFP*

EV074-22 Feed tube/aeration stopcock, RE100/VR
EV074-25 Vacuum seal, RE100/VS
EV074-27 Drain tap for cold finger condensers, RE200/CFD

*Supplied without drain tap — *see EV074-27.*

Accessories

	Description
Receiving flasks, standard glassware	
EV074-50	50ml, RE100/RF50
EV074-54	100ml, RE100/RF100
EV074-58	250ml, RE100/RF250
EV074-62	500ml, RE100/RF500
Receiving flask, plastic coated glassware	
EV075-62	500ml, RE100/RF500P
Rotating flasks, Florentine shape, standard glassware	
QFD50/4RE	50ml
QFD100/4RE	100ml
QFD250/4RE	250ml
QFD500/4RE	500ml
EV074-70	Extension adapter, RE100/EA. For use with 50ml, 100ml and 250ml rotating flasks

Pumps – *see PX345/PX474.*


EV072-25 with EV078-55


EV078-55


EV078-65

Rotary Evaporator, Hei-Vap series

Heidolph
Research made easy

- Choice of angled or vertical distillation condenser*
- Choice of analogue dial (Hei-Vap Value) or digital (Hei-Vap Advantage) setting and control of rotation speed and heating bath temperature
- Supplied with high-efficiency heating bath with horizontal positioning adjustment
- Manual lift
- Detachable operating panel for remote positioning, e.g. outside a fume hood
- Hei-Vap Advantage digital models have 3.5" LCD readout showing rotation speed, heating bath temperature and vapour temperature. Warning displays will also operate if preset parameters are exceeded
- Motorised lift models automatically remove the evaporating flask from the bath in the event of power failure

Speed range	20 to 280rpm
Water bath	20 to 210°C, 4.5 litres capacity
Lifting mechanism	155mm maximum
Evaporator flasks	50 to 5000ml accepted

Each glassware set includes:
1 each 1000ml evaporating and receiving flasks, angled or vertical condenser* and feed tube. Overall W x D x H 490 x 395 x 430mm (manual lift models) 411 x 393 x 427mm (electrical lift models). Weight 22kg. For 230V 50/60Hz single phase supplies.

Analogue control models
Without display.

EV330-50 Model Hei-Vap Value, angled distillation, manual lift
EV330-52 Model Hei-Vap Value, vertical distillation, manual lift

Digital control models
With LCD readout.

EV330-85 Model Hei-Vap Advantage, angled distillation, manual lift
EV330-87 Model Hei-Vap Advantage, vertical distillation, manual lift
EV330-90 Model Hei-Vap Advantage, angled distillation, electrical lift
EV330-92 Model Hei-Vap Advantage, vertical distillation, electrical lift

*Cold-trap and plastic-coated glassware versions of these evaporators are available – *details on request.*

Accessories

EV332-06 Spare evaporating flask, 1000ml
EV332-26 Spare receiving flask, 1000ml

Manual vacuum controller
To control any vacuum source connected to a Hei-Vap rotary evaporator, adjustable from 0 to 1200mbar x 50mbar. With adapter for 8mm i.d. tubing. Overall 80 x 80 x 150mm W x D x H.

EV332-35 Manual vacuum controller

Vacuum valve
Required for use with Hei-Vap evaporators and valve-regulated vacuum pumps.

EV332-39 Vacuum valve

Vacuum pump, Rotovac valve control
Two-stage diaphragm pump in chemically-resistant materials. Throughput 1.7m³/hr, ultimate vacuum 9mbar. Capacity for running up to 3 evaporators simultaneously. Overall 295 x 245 x 185mm W x D x H. Weight 10.5kg. For 230V 50Hz single phase supplies. Requires, but is not supplied with, EV332-39 for operation.

EV332-44 Pump, Rotovac valve control

Vacuum pump, Rotovac valve tec
Two-stage diaphragm pump in chemically-resistant materials. Throughput 0.75m³/hr, ultimate vacuum 12mbar. Overall 145 x 315 x 169mm W x D x H. Weight 6kg. For 230V 50Hz single phase supplies. Requires, but is not supplied with, EV332-39 for operation.

EV332-48 Pump, Rotovac valve tec



EV330-50



EV330-92

Soxhlet Extractors

Compact extraction systems comprising stand, heating module with variable controller and aluminium block, glassware and cooling manifold (multi-operation units only) for use with mains water or open cooling circulator circuit.

- Convenient stopcock on the soxhlet body allows solvent to be drained into a storage reservoir after the extraction is complete
- Rigid metal stand holds glassware securely and is powder-coated to resist corrosion
- Cooling manifold ensures even distribution of cooling liquid to all condensers

Single extractors

Model		MXT30S	MXT100S	MXT250S	MXT500S
Extractors x capacity	*ml*	1 x 30	1 x 100	1 x 250	1 x 500
Overall, W x D x H	*mm*	230 x 330 x 715	230 x 330 x 805	230 x 330 x 805	230 x 330 x 805
Weight, net	*kg*	9	10.5	10.5	10.5
Supply requirement		230V 50/60Hz a.c., 450W — all models			

4-place extractors

Model		SXT304ECS	SXT104ECS	SX254ECS
Extractors x capacity	*ml*	4 x 30	4 x 100	4 x 250
Overall, W x D x H	*mm*	530 x 320 x 740	530 x 320 x 740	530 x 320 x 740
Weight, net	*kg*	17	18.5	19
Supply requirement		230V 50/60Hz a.c., 450W — all models		

6-place extractors

Model		SXT306ECS	SXT106ECS	SX256ECS
Extractors x capacity	*ml*	6 x 30	6 x 100	6 x 250
Overall, W x D x H	*mm*	760 x 320 x 720	760 x 320 x 720	760 x 320 x 720
Weight, net	*kg*	20	21	23
Supply requirement		230V 50/60Hz a.c., 450W — all models		

As described. Supplied with stand, heater, and glassware with capacity as indicated. Without extraction thimbles.

EX200-10 MXT30S
EX200-15 MXT100S
EX200-20 MXT250S
EX200-25 MXT500S

EX200-30 SXT304ECS
EX200-35 SXT104ECS
EX200-40 SXT254ECS

EX200-45 SXT306ECS
EX200-50 SXT106ECS
EX200-55 SXT256ECS

Spare Extractors

With solvent drain stopcock.

EX200-85 30ml
EX200-87 100ml
EX200-89 250ml
EX200-91 500ml

Soxhlet thimbles

EX100-22 22 x 80mm, for 30ml extractor
EX100-52 33 x 94mm, for 100ml extractor

Soxhlet thimbles for 250ml and 500ml extractors - *details on request.*



EX200-15



EX200-35

Thimbles

Extraction Thimbles, Whatman
Cellulose. Supplied in boxes of 25. Dimensions given are nominal internal diameter x external length.

	I.d. x length mm		*I.d. x length mm*
Single thickness			
EX100-10	10 x 50	***EX100-43***	30 x 80
EX100-13	18 x 55	***EX100-46***	30 x 100
EX100-16	19 x 90	***EX100-49***	33 x 80
EX100-22	22 x 80	***EX100-52***	33 x 94
EX100-25	25 x 80	***EX100-55***	33 x 100
EX100-28	25 x 100	***EX100-58***	33 x 118
EX100-31	26 x 60	***EX100-60***	37 x 130
EX100-36	28 x 80	***EX100-61***	41 x 123
EX100-37	28 x 100	***EX100-64***	43 x 123
EX100-40	28 x 120	***EX100-67***	60 x 180
Double thickness			
EX105-22	22 x 80	***EX105-49***	33 x 80

Extraction Thimbles, Whatman
Glass microfibre, high purity grade HP-GF. Can be used up to 550°C. Supplied in boxes of 25.

	I.d. x length mm		*I.d. x length mm*
EX110-16	19 x 90	***EX110-25***	43 x 123

Soxhlet Extraction Glassware. Capacities up to 2000ml – *see Quickfit section.*



EX100 with glassware

Soxhlet Mantles, Electrothermal

- Solid state electronic heat control on each recess – spark free in normal operation
- Heater cartridge includes a safety earth (ground) screen for additional operator safety
- PTFE coated external surfaces
- Choice of 3 or 6 recesses
- Choice of stirred or unstirred positions

Electrothermal Soxhlet Heating Mantles
With brackets and 12.7mm diameter support rods. For 230V 50/60Hz single phase supplies.

With the stirred models a single control changes the stirring speed of 3 recesses. The 6 bank units therefore have two controls. Speed is continuously variable from 50 to 1000rpm.

Recesses x capacity ml	*Rating W*	*Unstirred models EME series*	*Stirred models EMEA series*
3 x 100	180	***EX300-10***	***EX300-50***
3 x 250	450	***EX300-15***	***EX300-55***
3 x 500	600	***EX300-20***	***EX300-60***
3 x 1000	900	***EX300-25***	***EX300-65***
6 x 100	360	***EX305-10***	***EX305-50***
6 x 250	900	***EX305-15***	***EX305-55***
6 x 500	1200	***EX305-20***	***EX305-60***
6 x 1000	1800	***EX305-25***	***EX305-65***

Replacement elements
For EX300/EX305 mantles manufactured from July 1999*. One element is required for each recess. For 230V 50/60Hz single phase supplies.

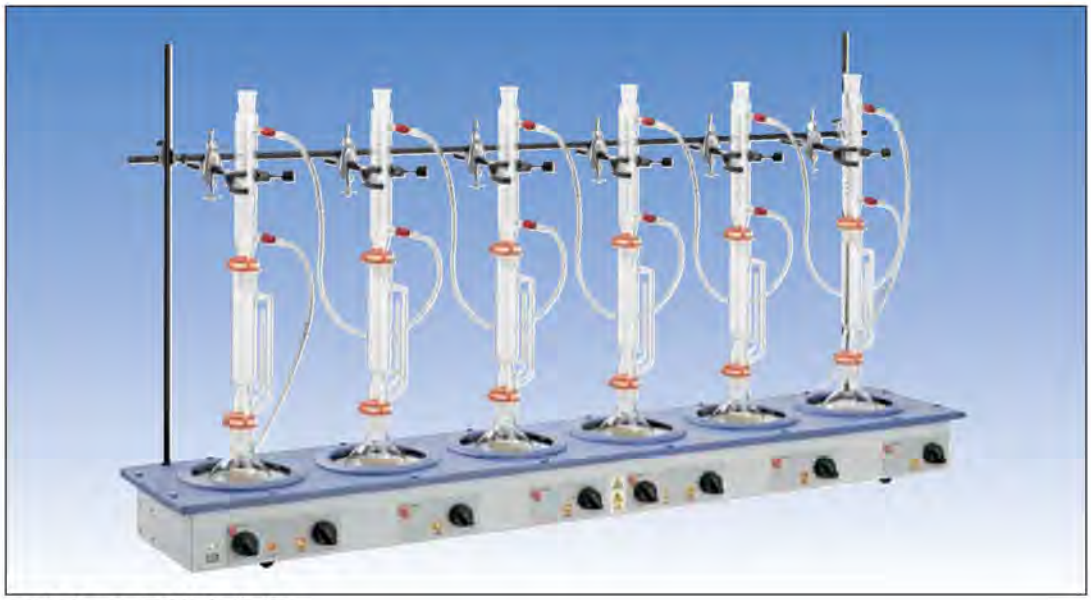
EX307-10 60W, 100ml for EX300-10 or EX305-10 mantles
EX307-15 150W, 250ml for EX300-15 or EX305-15 mantles
EX307-20 200W, 500ml for EX300-20 or EX305-20 mantles
EX307-25 300W, 1000ml for EX300-25 or EX305-25 mantles

EX309-10 60W, 100ml for EX300-50 or EX305-50 mantles
EX309-15 150W, 250ml for EX300-55 or EX305-55 mantles
EX309-20 200W, 500ml for EX300-60 or EX305-60 mantles
EX309-25 300W, 1000ml for EX300-65 or EX305-65 mantles

*Elements for mantles manufactured before July 1999 - *see HE220.*

Accessory
Flow monitor for protecting Soxhlet system against loss of water flow through condensers. For full details see entry in the Flow Section.

FR300-10 Flow monitor



EX305 in use, EX300 is similar

Fermac 200

Low-cost, modular, bacteriological fermenter equally suited to simple or more specialist applications in both educational or industrial environments.

- Choice of vessel size: 2, 5 or 10 litres
- Powerful, direct drive agitation system
- Pt100 temperature sensor for accurate temperature monitoring by separate controller
- Wrap-around, silicone heater blanket operates at low-voltage and is washable
- pH control module with acid/alkali peristaltic pump dosing and autoclavable, gel filled electrode
- Dissolved oxygen measurement module with stainless steel, autoclavable, polarographic probes

Vessels

Choice of 2, 5 or 10 litre borosilicate glass vessels with rigid frame. The 316L stainless steel top plate features 7 x 12mm and 5 x 6.3mm accessory ports for maximum versatility. O-ring seals are mounted on the sterile side of ports to assure sterility and avoid cross contamination. Removable twin baffle and cooling coil ensure cleaning of the vessel is quick and easy.

Agitation and temperature module

Agitation is provided by a vessel-mounted, powerful d.c. direct drive motor which is locked to the stirrer paddle so that it cannot be removed accidentally. Both agitation and temperature are controlled by the same module, which uses an industrial-grade Pt 100 sensor for stable measurement with temperature displayed on an LED readout. Cooling is on-demand, operated by a valve mounted on a separate service plate, thus separating water and electrics.

pH module

Provides continuous display of the vessel pH which can be switched to control set-point at any time. Dual peristaltic pumps separately dispense acid and alkali to allow acid/base compensation during the fermentation process. A threaded, autoclavable, gel filled electrode provides monitoring and locks firmly into the vessel top plate to prevent accidental movement or damage and provides monitoring.

Dissolved Oxygen module

Provides continuous readout of D.O. on the LED display via stainless steel, autoclavable, polarographic electrodes and includes calibration controls for both zero and gain of the D.O. electrode.



FA405 in use with FA406-08

Specifications

Vessels		Borosilicate glass vessel with 316L stainless steel top plate, integral baffles and cooling coil.		
		2 litre	5 litre	10 litre
Working volume	*litres*	2	5	10
Total volume	*litres*	2.7	6.4	12.5
Ports	*6.3mm dia.*	6	5	7
	12mm dia.	5	7	7
Agitation		Direct drive with powerful 60 watt d.c. motor		
Speed range	*rpm*	50 to 1100 — all models		
Temperature Control		Using Pt100 sensor to measure vessel temperature and low voltage (24V) wrap-around heating system with a cold finger heat exchange for cooling		
Display range	*°C*	0 to 100 — all models		
Operating range	*°C*	from 5 above cooling water to 50		
Heater	*watts*	60	160	250
pH control		Using autoclavable, gel filled pH electrode, controlled by addition of acid or base using separate peristaltic pumps		
Display range	*pH*	0 to 14 — all models		
Operating range	*pH*	4 to 10 — all models		
D.O. measurement		Using stainless steel, autoclavable, polarographic electrode (supplied as standard) or glass galvanic electrode		
D.O. range	*%*	0 to 120 — all models		
Module	*mm*	W x D x H — all models		
Temperature/agitator		265 x 240 x 127		
	pH	265 x 240 x 167		
	D.O.	265 x 240 x 187		

continued on next page

Fermac 200 continued

Fermac 200 Starter kits
Comprising vessels as indicated, Fermac 230 module with agitation and temperature only, supplied with support frame, top plate, heater blanket, Pt100 sensor, stainless steel condenser, cooling coil, air sparge tube, port blanking plugs, 3-way inlet, service plate, temp./agitator controller with drive motor and 2 x impellors, supply leads and instruction manual. For 230V 50Hz single phase supplies.

FA400-10 Fermac 200 Starter kit with 2 litre vessel
FA400-20 Fermac 200 Starter kit with 5 litre vessel
FA400-30 Fermac 200 Starter kit with 10 litre vessel

Fermac 200 Fermenter Systems
Standard systems incorporating FA400-series kits, but additionally including D.O. monitor with polarographic probe, pH controller with autoclavable electrode and acid/base peristaltic pumps, supply/sensor leads and basic instructions. For 230V 50Hz single phase supplies (separate supply required for each module).

FA405-10 Fermac 200 fermenter System with 2 litre vessel
FA405-20 Fermac 200 fermenter System with 5 litre vessel
FA405-30 Fermac 200 fermenter System with 10 litre vessel

Accessories

Fermac 280 Anti-foam module
Designed to operate with either a conductivity probe or on a timed basis and can also be used for either level control or as a feed pump. Overall W x D x H 265 x 240 x 87mm. For 230V 50Hz single phase supplies.

FA406-08 Anti-foam module

FerMac 368 Gas Analyser
Measures the oxygen and carbon dioxide in exit gas. Incorporates a flow meter and pump which ensures a constant flow of gas through the analyser independent of varying air sparge rates through the fermentation vessel. CO_2 measurement (range 0 to 10%) is by I.R. absorption, O_2 measurement (range 0 to 50%) by utilising an electrochemical sensor. Separate LED displays are provided and analogue outputs can be connected to existing fermentation equipment. Overall W x D x H 190 x 330 x 190mm. For 230V 50/60Hz single phase supplies.

FA406-11 FerMac 368 gas analyser

elogger
Fully programmable data logging unit with graphing capability for up to 8 inputs of 0 to 5 or 0 to 10 volts or 0 to 20 or 4 to 20mA d.c. Logging rate adjustable from 5 to 60 seconds or 1 to 60 minutes. The unit is connected to the users' PC by USB serial connection and to the input device by a terminal trip. Supplied with operating software on a USB memory stick.

FA406-14 elogger



FA400



FA406-11



FA406-08



FA406-14 in use (schematic)

Filter Papers, Qualitative Grades

Grade No.		*Flowrate*	*Retention microns*	*Wet strength*	*Thickness mm*	*Ash %*
Student*	General purpose schools grade, smooth	M/F	11 - 25	H	0.15	—
91*	General purpose schools grade, creped	M/F	10	H	0.23	—
1	The most widely used general purpose paper	M/F	11	L	0.18	0.06
2	Slightly thicker and more retentive than No. 1	M/F	8	L	0.19	0.06
2V	As No. 2 but supplied prepleated	M/F	8	L	0.19	0.06
3	Double the thickness of No. 1	M	6	M	0.39	0.06
3MM	Filtration grade of chromatography paper 3MM Chr	M	11	M	0.34	—
4	Excellent retention of coarse and gelatinous precipitates	F	20 - 25	L	0.21	0.06
5	Will retain fine precipitates, grained surface	S	2.5	L	0.20	0.06
6	Faster than No. 5 but almost as high retention	S	3	L	0.18	0.20
113	Excellent retention of coarse and gelatinous precipitates, creped	F	30	H	0.42	0.06
113V	As No. 113 but supplied prepleated	F	30	H	0.42	0.06
114	Similar to No. 113 but thinner and very strong. Smooth surface	F	25	H	0.19	0.06
114V	As No. 114 but supplied prepleated	F	25	H	0.19	0.06

*These schools grade papers are manufacturered and packed to less critical standards than other Whatrman filters. Approximate values only.

Whatman®

Filter Papers, Quantitative Grades

Very high quality papers for use in critical gravimetric analysis.

Grade No.		*Flowrate*	*Retention microns*	*Wet strength*	*Thickness mm*	*Ash %*
Ashless						
40	General purpose gravimetric paper	M	8	L	0.20	0.01
41	For filtration of coarse and gelatinous precipitates	F	20 - 25	L	0.21	0.01
42	Highly retentive for fine precipitates	S	2.5	L	0.20	0.01
43	Intermediate retention and flow rate between Nos. 40 and 41	M/F	16	L	0.21	0.01
44	Thin version of No. 42	S	3	L	0.17	0.01
Hardened						
50	For retention of finest crystalline precipitates. Highly glazed surface	S	2.7	H	0.12	0.025
52	General purpose hardened grade	M	7	H	0.17	0.025
54	For filtration of coarse and gelatinous precipitates	F	20 - 25	H	0.18	0.025
Hardened ashless						
540	General purpose hardened ashless paper	M	8	H	0.15	0.008
541	For filtration of coarse and gelatinous precipitates	F	20 - 25	H	0.16	0.008
542	Highly retentive for fine precipitates	S	2.7	H	0.15	0.008

Flowrate
M – Medium
F – Fast
S – Slow

Wet Strength
L – Suitable for gravity or low suction filtration. Care must be taken to prevent rupture of the paper.
M – Will withstand all normal use on Buchner funnels or other devices under suction or moderate pressure.
H – High wet strength and high chemical resistance.

Filter Paper, Circles and Sheets, Qualitative Grades

Whatman®

Student Grade

General purpose, supplied in outer packs as indicated, containing inner bags of 100 circles.

	Dia., cm	*Pack qty.*
FB100-33	12.5	4000
FB100-35	15	1000

Grade 91

General purpose, creped. Supplied in outer packs as indicated containing inner bags of 100 circles.

	Dia., cm.	*Pack qty.*
FB102-32	12.5	4000
FB102-34	15.0	1000
FB102-36	18.5	1000

Grade No. 1

Qualitative general purpose. Supplied in boxes of circles or sheets as indicated.

	Dia., cm	*Box qty.*
Circles		
FB105-12	2	400
FB105-16	2.5	400
FB105-18	3	400
FB105-22	4.25	100
FB105-24	5.5	100
FB105-26	7	100
FB105-27	8.5	100
FB105-28	9	100
FB105-30	11	100
FB105-32	12.5	100
FB105-34	15	100
FB105-36	18.5	100
FB105-38	24	100
FB105-40	27	100
FB105-42	32	100
FB105-44	40	100
FB105-46	50	100
	W x L, cm	*Box qty.*
Sheets		
FB105-65	2.6 x 3.1	1000
FB105-75	46 x 57	100
FB105-77	46 x 57	500
FB105-80	58 x 68	100

Grade No. 2

Qualitative. Supplied in boxes of circles or sheets as indicated.

	Dia., cm	*Box qty.*
Circles		
FB110-22	4.25	100
FB110-24	5.5	100
FB110-26	7	100
FB110-28	9	100
FB110-30	11	100
FB110-32	12.5	100
FB110-34	15	100
FB110-36	18.5	100
FB110-38	24	100
FB110-42	32	100
	W x L, cm	*Box qty.*
Sheets		
FB110-75	46 x 57	100

Grade No. 2V

Qualitative. Prepleated. Supplied in boxes of circles as indicated.

	Dia., cm	*Box qty.*
FB115-32	12.5	100
FB115-34	15	100
FB115-36	18.5	100
FB115-38	24	100
FB115-40	27	100
FB115-42	32	100

Grade No. 3

Qualitative. Thick. Supplied in boxes of circles or sheets as indicated.

	Dia., cm	*Box qty.*
Circles		
FB120-24	5.5	100
FB120-26	7	100
FB120-28	9	100
FB120-30	11	100
FB120-32	12.5	100
FB120-34	15	100
FB120-36	18.5	100
FB120-38	24	100
	W x L, cm	*Box qty.*
Sheets		
FB120-75	46 x 57	100

continued on next page



Filter Paper, Circles, Qualitative Grades continued

Whatman®

All grades supplied in boxes of circles as indicated.

	Dia., cm	Box qty.
Grade 3MM Circles		
Qualitative.		
FB125-18	2.5	100
Grade No. 4 Circles		
Qualitative. Fast flow.		
FB130-22	4.25	100
FB130-24	5.5	100
FB130-26	7	100
FB130-28	9	100
FB130-30	11	100
FB130-32	12.5	100
FB130-34	15	100
FB130-36	18.5	100
FB130-38	24	100
FB130-42	32	100
Grade No. 5 Circles		
Qualitative. Slow flow.		
FB135-24	5.5	100
FB135-26	7	100
FB135-28	9	100
FB135-30	11	100
FB135-32	12.5	100
FB135-34	15	100
FB135-36	18.5	100
FB135-38	24	100
Grade No. 6 Circles		
Qualitative. Slow.		
FB140-26	7	100
FB140-28	9	100
FB140-30	11	100
FB140-32	12.5	100
FB140-34	15	100
FB140-36	18.5	100
FB140-38	24	100

	Dia., cm	Box qty.
Grade No. 113 Circles		
Qualitative. Fast flow.		
FB150-28	9	100
FB150-32	12.5	100
FB150-34	15	100
FB150-36	18.5	100
FB150-38	24	100
Grade No. 113V Circles		
Qualitative. Prepleated.		
FB155-32	12.5	100
FB155-34	15	100
FB155-36	18.5	100
FB155-38	24	100
FB155-40	27	100
FB155-42	32	100
FB155-46	50	100
Grade No. 114 Circles		
Qualitative.		
FB160-34	15	100
FB160-40	27	100
Grade No. 114V Circles		
Qualitative. Prepleated.		
FB165-32	12.5	100
FB165-34	15	100
FB165-38	24	100



Filter Paper Circles, Quantitative Grades

Whatman®

All grades supplied in boxes of circles as indicated.

	Dia., cm	Box qty.
Grade No. 40 Circles		
Quantitative ashless.		
FB200-18	3.2	100
FB200-24	5.5	100
FB200-26	7	100
FB200-28	9	100
FB200-30	11	100
FB200-32	12.5	100
FB200-34	15	100
FB200-36	18.5	100
FB200-38	24	100
Grade No. 41 Circles		
Quantitative ashless.		
FB205-24	5.5	100
FB205-25	6	100
FB205-26	7	100
FB205-28	9	100
FB205-30	11	100
FB205-32	12.5	100
FB205-34	15	100
FB205-36	18.5	100
FB205-38	24	100
Grade No. 42 Circles		
Quantitative ashless.		
FB210-22	4.25	100
FB210-24	5.5	100
FB210-26	7	100
FB210-28	9	100
FB210-30	11	100
FB210-32	12.5	100
FB210-34	15	100
FB210-36	18.5	100
FB210-38	24	100
Grade No. 43 Circles		
Quantitative ashless.		
FB215-30	11	100
FB215-32	12.5	100
FB215-34	15	100
FB215-36	18.5	100
Grade No. 44 Circles		
Quantitative ashless.		
FB220-30	11	100
FB220-32	12.5	100
FB220-34	15	100
FB220-36	18.5	100

	Dia., cm	Box qty.
Grade No. 50 Circles		
Quantitative hardened.		
FB250-24	5.5	100
FB250-28	9	100
FB250-30	11	100
FB250-32	12.5	100
FB250-34	15	100
FB250-36	18.5	100
FB250-38	24	100
Grade No. 52 Circles		
Quantitative hardened.		
FB255-34	15	100
Grade No. 54 Circles		
Quantitative hardened.		
FB260-24	5.5	100
FB260-26	7	100
FB260-28	9	100
FB260-30	11	100
FB260-32	12.5	100
FB260-34	15	100
FB260-36	18.5	100
FB260-38	24	100
FB260-42	32	100

	Dia., cm	Box qty.
Grade No. 540 Circles		
Quantitative hardened ashless.		
FB300-26	7	100
FB300-28	9	100
FB300-30	11	100
FB300-32	12.5	100
FB300-34	15	100
FB300-36	18.5	100
Grade No. 541 Circles		
Quantitative hardened ashless.		
FB305-24	5.5	100
FB305-26	7	100
FB305-28	9	100
FB305-30	11	100
FB305-32	12.5	100
FB305-34	15	100
FB305-36	18.5	100
FB305-38	24	100
Grade No. 542 Circles		
Quantitative hardened ashless.		
FB310-24	5.5	100
FB310-26	7	100
FB310-28	9	100
FB310-30	11	100
FB310-32	12.5	100
FB310-34	15	100
FB310-36	18.5	100
FB310-38	24	100



Special Papers

Whatman®

Phase Separators, 1PS

A silicone impregnated, water repellent paper which can be used to separate aqueous solutions from immiscible solvents. The aqueous phase is retained and the organic phase passes through. Will retain solid particles. Can be used either flat under suction not exceeding 70mm Hg or quadrant folded in a conical glass funnel. Supplied in boxes of 100 circles.

Note: This paper contains a small quantity of a tin complex catalyst. It is therefore not recommended for use when this complex may cause interference, e.g. with the use of dithizone (diphenylthiocarbazone) reagent.

	Dia., cm	*Box qty.*
FB380-26	7	100
FB380-28	9	100
FB380-30	11	100
FB380-32	12.5	100
FB380-34	15	100
FB380-36	18.5	100
FB380-40	27	100

Filter Aids

Cellulose materials used to coagulate precipitates and as a prefilter layer in funnels.

Quantitative grade is used for Filter Aids except for ordinary clippings. Ashless.

		Box qty.
FB405-30	Floc	100g
FB405-40	Clippings	500g

Seed Test Papers

For use in most commonly applied seed germination methods. Supplied in boxes of 100 circles.

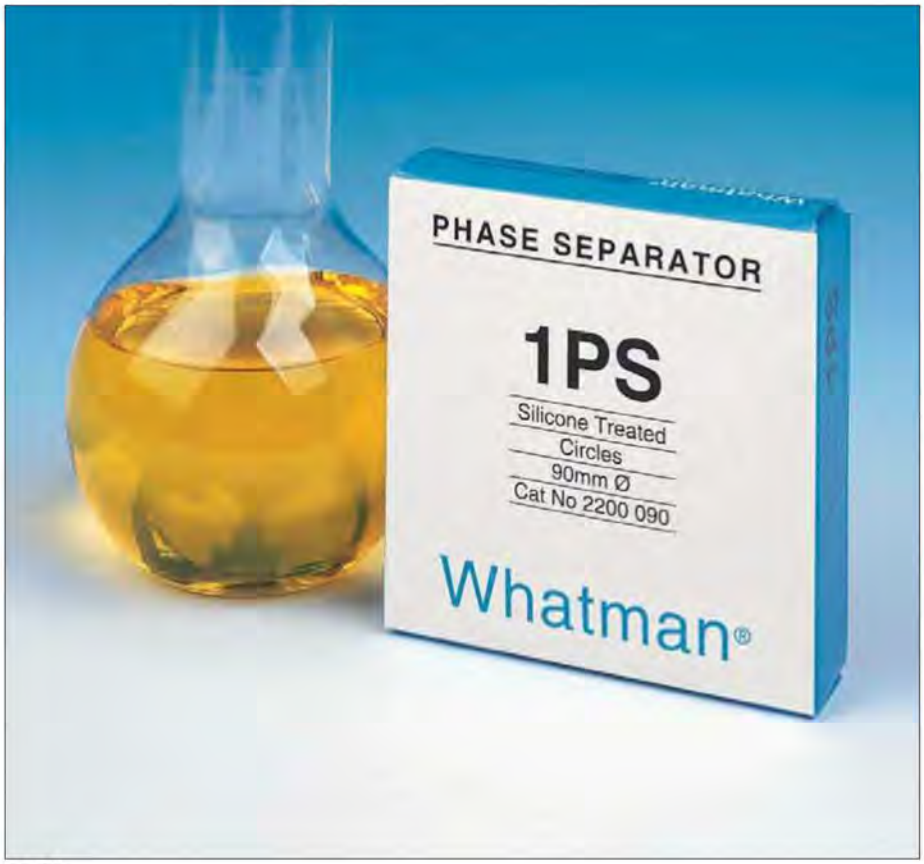
FB420-10 No. 181, 9cm diameter

Lens Tissues, Whatman 105

For lens cleaning.

	Dimensions, mm	*Pack qty.*
CL760-10	100 x 150	625
CL760-15	200 x 300	100
CL760-20	460 x 570	500

Special Glass Microfibre Products for air pollution sampling – *see FB800 and FB820 series.*



FB380



FB405



CL760

Glass Microfibre Filters

Whatman

All Whatman Glass Microfibre filters have a fast filtration and a high loading capacity and particle retention rate.

- Manufactured without chemical binder from high grade borosilicate glass
- They are suitable for gravity or low suction filtration
- Filtration speeds generally very much higher than conventional cellulose papers
- Efficient retention of micron size particles
- Must be used flat. Ideal for use in flat perforated plate Buchner type funnels (not sintered glass models)
- Can be used up to 550°C
- Wide range of applications including:
  - — retention of fine analytical precipitates
  - — retention of biochemical gelatinous precipitates
  - — water/air pollution analyses
  - — as prefilters for membranes
  - — scintillation counting
  - — radioimmunoassay

Grades

GF/A The general purpose high efficiency glass micro-fibre filter. Particle retention to 1.6µm.

GF/B Three times thicker and with greater wet strength than GF/A. Particle retention to 1µm.

GF/C Extremely efficient filter made to retain fine particles and micro-organisms. Particle retention to 1.2µm.

GF/D Thick filter made from less fine fibres and retaining 2.7µm size particles with a very high loading capacity. Extremely high speed.

GF/F This ultra-fine filter has a 98% retention efficiency for particles down to 0.7µm in liquids.

934-AH High retention at high flow rates. Widely used in water pollution monitoring techniques for suspended solids, and is specified in US Method 934-AH. Particle retention to 1.5µm.

EPM2000 Specially manufactured for use in air samplers with a high throughput of air.

QM-A Quartz Manufactured from quartz microfibre to withstand high temperatures.



All grades supplied in boxes of circles or sheets as indicated.

	Dia., cm	*Box qty.*
Grade GF/A Circles		
FB600-10	2.1	100
FB600-13	2.4	100
FB600-16	2.5	100
FB600-22	3.7	100
FB600-25	4.25	100
FB600-28	4.7	100
FB600-33	5.0	100
FB600-36	5.5	100
FB600-39	6.0	100
FB600-42	7.0	100
FB600-45	9.0	100
FB600-48	11.0	100
FB600-52	12.5	100
FB600-55	15.0	100

	W x L, cm	*Box qty.*
Grade GF/A Sheets		
FB602-25	20.3 x 25.4	100
FB602-35	46 x 57	25

	Dia., cm	*Box qty.*
Grade GF/B Circles		
FB610-13	2.4	100
FB610-16	2.5	100
FB610-22	3.7	100
FB610-25	4.25	100
FB610-28	4.7	100
FB610-36	5.5	100
FB610-42	7.0	100
FB610-45	9.0	25
FB610-48	11.0	25
FB610-52	12.5	25
FB610-55	15.0	25
FB610-57	18.5	25

	W x L, cm	*Box qty.*
Grade GF/B Sheets		
FB612-35	46 x 57	25

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Glass Microfibre Filters continued

Whatman®

All grades supplied in boxes of circles or sheets as indicated.

	Dia., cm	Box qty.
Grade GF/C Circles		
FB620-10	2.1	100
FB620-13	2.4	100
FB620-16	2.5	100
FB620-25	4.25	100
FB620-28	4.7	100
FB620-33	5.0	100
FB620-36	5.5	100
FB620-42	7.0	100
FB620-45	9.0	100
FB620-48	11.0	100
FB620-52	12.5	100
FB620-55	15.0	100

	W x L, cm	Box qty.
Grade GF/C Sheets		
FB622-20	10.2 x 25.4	50
FB622-30	46 x 57	25

	Dia, cm.	Box qty.
Grade GF/D Circles		
FB630-16	2.5	100
FB630-28	4.7	100
FB630-42	7.0	100
FB630-45	9.0	25
FB630-48	11.0	25
FB630-52	12.5	25
FB630-55	15.0	25
FB630-60	25.7	25
Grade GF/F Circles		
FB640-14	2.4	100
FB640-16	2.5	100
FB640-25	4.25	100
FB640-28	4.7	100
FB640-36	5.5	100
FB640-42	7.0	100
FB640-45	9.0	25
FB640-48	11.0	25
FB640-52	12.5	25
FB640-55	15.0	25
FB640-60	25.7	25

	W x L, cm	Box qty.
Grade GF/F Sheets		
FB642-35	46 x 57	25

Special Grades

Whatman®

	Dia., cm	Box qty.
Grade 934-AH Circles		
FB655-14	2.4	100
FB655-28	4.7	100
FB655-36	5.5	100
FB655-42	7.0	100
FB655-45	9.0	100
FB655-48	11.0	100
FB655-52	12.5	100

Grade EPM2000

For use in high volume air samplers. Sheet size 8 x 10in. Supplied in a box of 100 sheets.

FB800-10 EPM2000

	Dia., cm	Box qty.
Grade QM-A Circles		
Quartz microfibre. Will operate to 500°C.		
FB820-16	2.5	100
FB820-22	3.7	100
FB820-28	4.7	100

	W x L inches	Box qty.
Grade QM-A Sheets		
FB822-25	8 x 10	25

FilterCup™

Whatman®

Disposable filter funnels for the rapid and easy filtration of aqueous solutions under gravity or by vacuum. Comprise 250ml capacity polypropylene reservoir with a heat-bonded, 70mm diameter filter in a choice of grades as indicated. The filter reservoir inserts into an accessory re-usable stem fitted with a stopper suitable for flasks with a neck diameter of 25 to 48mm i.d. Supplied in packs of 25.

	Filter Grade	Particle retention, µm
FB840-91	1	11
FB840-93	3	6
FB840-94	113	30
FB840-95	GF/A	1.6
FB840-96	GF/C	1.2
FB840-97	GF/F	0.7

Accessory stem for FilterCup™

Polypropylene, re-usable, with stopper. Supplied singly.

FB840-99 FilterCup™, stem



Membrane Filters

Whatman

Cellulose Nitrate Membrane Circles, WCN

Supplied in box quantities as indicated. Plain White.

	Pore size, µm	Dia. mm	Box qty.
FC150-12	0.1	25	100
FC150-19	0.1	47	100
FC152-08	0.2	13	100
FC152-12	0.2	25	100
FC152-19	0.2	47	100
FC152-32	0.2	90	25
FC152-40	0.2	142	25
FC156-08	0.45	13	100
FC156-12	0.45	25	100
FC156-16	0.45	37	100
FC156-19	0.45	47	100
FC156-21	0.45	50	100
FC156-25	0.45	82	25
FC156-32	0.45	90	25
FC156-40	0.45	142	25
FC156-50	0.45	293	25
FC158-12	0.65	25	100
FC158-19	0.65	47	100
FC160-12	0.8	25	100
FC160-16	0.8	37	100
FC160-19	0.8	47	100
FC162-12	1.0	25	100
FC162-19	1.0	47	100
FC163-21	1.2	50	100
FC163-40	1.2	142	25
FC165-12	3.0	25	100
FC165-19	3.0	47	100
FC168-12	5.0	25	100
FC168-19	5.0	47	100
FC168-32	5.0	90	25

Prefilter for use with membrane filters – *see FB610 series (Grade GFIB fine), FB630 series (Grade GFID coarse).*

Cellulose Mixed Ester WME Membrane Circles

Supplied in box quantities as indicated. White gridded.

	Pore size, µm	Dia. mm	Box qty.
FC182-19	0.45	47	100
FC188-12	0.8	25	100

Cellulose Mixed Ester WME Membrane Circles
Sterilised by ethylene oxide

Individually packed with absorbent pad in sealed polyester envelope (except FC200-60). All pore size 0.45µm (except FC198-60 which is 0.2µm) and diameter 47mm. Supplied in boxes of 100.

FC198-60 White gridded
FC200-15 White plain
FC200-25 White gridded

FC200-30 Black gridded
FC200-60 White gridded (without pad)

Autoclave Pack

Ready for autoclaving. In pack of ten membranes and ten absorbent pads in a resealable envelope. With indicator which changes colour when autoclaved. Pore size 0.45µm, diameter 47mm. Box quantity 100 membranes with pads.

FC204-25 White gridded

PTFE Membrane Circles, WTP

With polypropylene backing. Supplied in box quantities as indicated. Plain White.

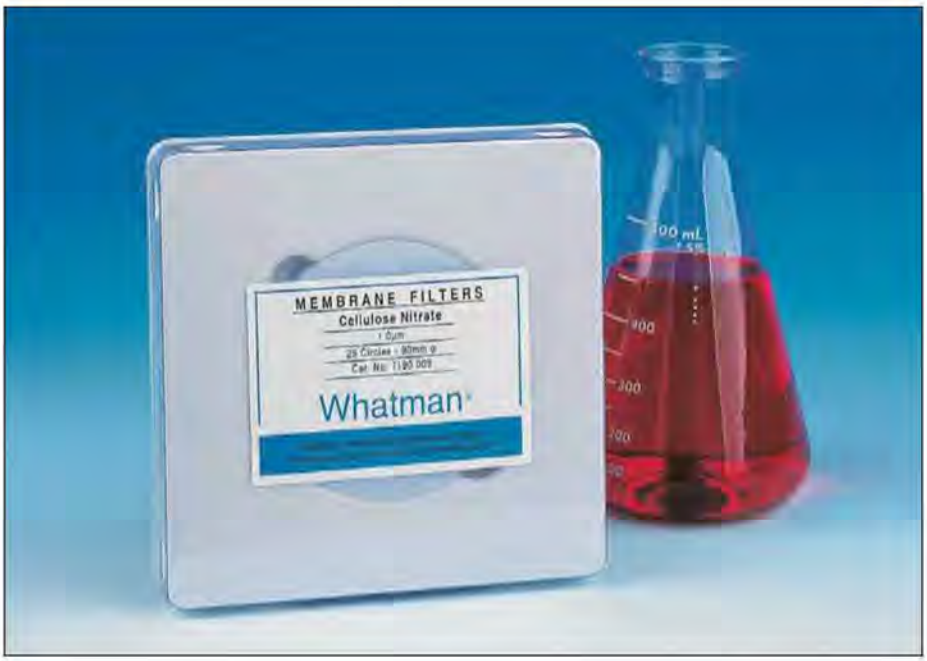
	Pore size, µm	Dia. mm	Box qty.
FC240-12	0.2	25	100
FC240-19	0.2	47	100
FC242-19	0.5	47	100
FC244-16	1.0	37	100
FC244-19	1.0	47	100

Inorganic Membrane Circles, Anodisc

Bonded to Polypropylene support ring (except 13mm). Supplied in box quantities as indicated. Plain White.

	Pore size, µm	Dia. mm	Box qty.
FC250-06	0.02	13	100
FC250-08	0.02	25	50
FC250-12	0.02	47	50
FC252-06	0.1	13	100
FC252-08	0.1	25	50
FC252-12	0.1	47	50
FC254-06	0.2	13	100
FC254-08	0.2	25	50
FC254-12	0.2	47	50

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Membrane Filters continued

Whatman®

Nylon Membrane Circles

Naturally hydrophilic, durable and compatible with a wide range of aqueous solutions, organic solvents and for filtration of biological preparations and media. Autoclavable at 121°C. Supplied in box quantities as indicated.

	Pore size, µm	*Dia. mm*	*Box qty.*
FC270-08	0.2	13	100
FC270-19	0.2	47	100
FC270-32	0.2	90	50
FC273-08	0.45	13	100
FC273-12	0.45	25	100
FC273-19	0.45	47	100
FC273-32	0.45	90	50
FC276-19	0.8	47	100

Polycarbonate Membrane Circles, Cyclopore

Naturally hydrophilic, with a smooth, flat surface and geometrically perfect cylindrical pores, made using a patented process. Supplied in box quantities as indicated.

	Pore size, µm	*Dia. mm*	*Box qty.*
FC280-10	0.2	47	100
FC280-16	1	47	100
FC280-22	5	47	100
FC280-30	12	47	100

Polycarbonate Membrane Circles, Nuclepore

Ultra-thin (6 to 11µm thick), with a smooth flat surface and sharply defined pore sizes, made using a patented process. Low protein binding and low extractables. Supplied in box quantities as indicated.

	Pore size, µm	*Dia. mm*	*Box qty.*
FC281-10	0.8	13	100
FC282-02	0.015	25	100
FC282-03	0.03	25	100
FC282-04	0.1	25	100
FC282-05	0.2†	25	100
FC282-06	0.2	25	100
FC282-07	0.4	25	100
FC282-08	0.4*	25	100
FC282-18	3.0	25	100
FC284-06	0.5	47	100
FC284-07	0.4	47	100
FC284-20	5.0	47	100
FC284-22	8.0	47	100

†Black dyed membrane for epifluorescence microscopy applications.
*Suitable for AOX (Adsorbable Organic) halogens analysis.





Membrane Filter Holders and Filtration Systems

Choice of models:

- Vacuum
- Syringe

Filter Holders, Vacuum, Whatman

Borosilicate glass with metal clamp. Choice of sintered glass or stainless steel membrane support. Can be mounted on an accessory filter flask or manifold using the appropriate size rubber stopper. Without stopper or prefilter. Supplied singly.

	Support	*Reservoir ml*	*Pre-filter mm*
25mm diameter			
FC300-10	Sintered glass	25	16
FC300-15	Sintered glass	50	13
FC300-25	Stainless steel screen	25	16
47mm diameter			
FC302-30	Sintered glass	300	35
FC302-40	Stainless steel screen	300	35

Filter Flasks, Buchner type – *see Flasks section.*

Filter Manifolds - *see FC338-series*

Stoppers – *see SW602-36.*

Filter Holders, Syringe, Whatman

Stainless steel with PTFE gasket and O-ring. With female luer lock inlet and male luer nozzle outlet. Supplied singly.

FC330-13 13mm diameter
FC330-25 25mm diameter

Filter Holders, Vacuum, Afora

Comprising separate funnel, base and clip components. The funnel and base are borosilicate glass, the base having a sintered glass membrane support disc for use with membranes of diameter as indicated. Funnel and base are clamped together using the metal retaining clip.

	Ref.	*Description*	*Funnel capacity ml*
For membranes, 25mm diameter			
FC350-20	5808/2	Funnel	15
FC350-30	5808/3	Base	—
FC350-40	9830/29M	Clip	—
For membranes, 47mm diameter			
FC355-15	5809/2	Funnel	300
FC355-25	5809/3	Base	—
FC355-35	5810/5	Clip	—

Filtration System, Afora

Borosilicate glass filtration system for use with 47mm diameter membranes. Four separate components make up the complete system, a 300ml capacity funnel, support base with sintered disc membrane support and vacuum connection, metal retaining clip and heavy wall 1 litre conical flask with ground glass connection for vacuum seal.

Ref.	*Description*
FC355-15	5809/2	Funnel
FC355-35	5810/5	Clip
FC357-06	5810/3	Base
FC357-09	5810/4	Flask



FC302, FC300 are similar



FC350-20 to FC350-40



FC355-15 to FC355-35



Filtration System

Membrane Filter Holders and Filtration Systems

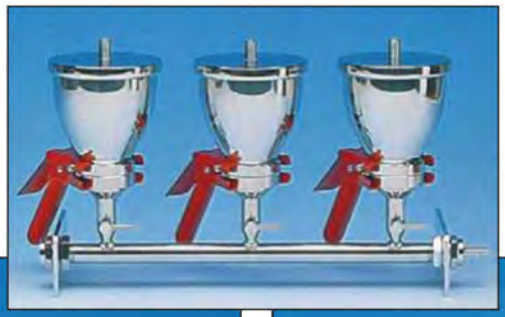
Whatman

Vacuum Filtration Systems
Stainless steel with metal, standard or rapid-fix clamp as indicated. Maximum working temperature 200°C. Autoclavable and can be dry-heat sterilised at up to 180°C. With stainless steel screen membrane support for 47/50mm diameter membranes. Can be mounted on an accessory filter flask using an appropriate size stopper.

	Clamp	*Reservoir, ml*	*Pre-filter size, mm*
FC304-09	Standard	500	40
FC304-14	Rapid-fix	500	40

Manifold Filtration Systems
For use with vacuum filter holders, as indicated. Stainless steel. With 9mm i.d. tubing connection ferrule.

FC316-10	3-place manifold, empty
FC316-14	3-place manifold, with 3 x FC304-09
FC316-16	3-place manifold, with 3 x FC304-14
FC316-30	6-place manifold, empty
FC316-34	6-place manifold, with 6 x FC304-09
FC316-36	6-place manifold, with 6 x FC304-14



FC316-14



FC304-09



FC304-14

Membrane Filter Holders and Filtration System

Filter Holders, Vacuum, Glass
Borosilicate glass with metal clamp, stainless steel membrane support screen, PTFE gasket and rubber stopper to fit accessory manifolds. Supplied singly.

	For membrane dia. mm	*Reservoir ml*
FC335-05	25	15
FC335-09	47	300
FC335-13	90	1000

Filter Holders, Vacuum, Stainless Steel
All stainless steel construction for durability. Can be flame sterilised. With reservoir volume indicator mark and stopper to fit accessory manifolds. Supplied singly.

	For membrane dia. mm	*Reservoir ml*
FC336-05	47	100
FC336-09	47	300
FC336-13	47	500

Accessory Stainless Steel lids for FC336 holders only.
With vent. For funnels with reservoirs as indicated.

FC336-25	100ml
FC336-29	300ml
FC336-33	500ml

Filter Manifolds
Stainless steel. For use with FC335 and FC336 vacuum filter holders. With stopcock on each position. Supplied singly.

FC338-10	3 position
FC338-20	6 position



FC335



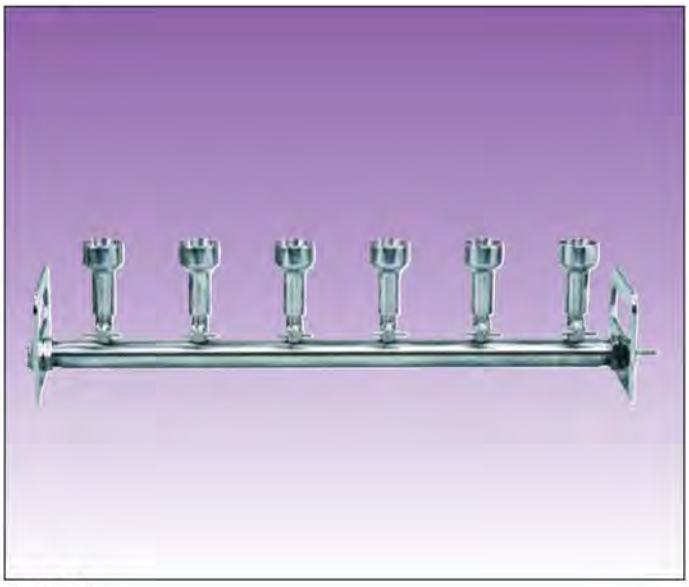
FC336



FC336-25 to -33



FC338-10



FC338-20

Filtration System, Klari-Flex™

Whatman

Novel design systems for filter sterilisation of liquids such as cell culture media, biological fluids and buffers. Comprises a stable, low-profile pedestal base with a permanent vacuum hose connection. The base automatically docks with the specially designed, sterile, filtration units with 'Drop-connect' technology to eliminate the traditionally time-consuming process of vacuum attachment (the Klari-flex™ filter units are also supplied with an adapter for use as conventional bottle-top units). Alternatively a cradle ring can be used with existing retort stands and rods to hold Klari-Flex™ filtration funnels and bottles.

- Improves productivity
- Easy to use with single-handed operation
- Pedestal base and cradle ring offer adjustable vacuum
- Choice of 250ml, 500ml or 1000ml units with 0.22µm or 0.45µm Polyethersulphone membrane filters

FC320-10 Klari-Flex™ pedestal stand only
FC320-15 Klari-Flex™ cradle ring only

Klari-Flex™ Filter units complete

Sterile. With 0.22µm or 0.45µm pore size PES filters and with funnel/bottle capacities as indicated. Supplied in packs of 12.

	Pore size, µm	*Funnel/bottle volume, ml*
FC322-05	0.22	250
FC322-15	0.22	500
FC322-25	0.22	1000
FC322-30	0.45	250
FC322-40	0.45	500
FC322-50	0.45	1000

Spare funnels

Sterile. With 0.22µm or 0.45µm pore size PES filters and with funnel/bottle capacities as indicated. Supplied in packs of 12.

	Pore size, µm	*Funnel/bottle volume, ml*
FC322-60	0.22	250
FC322-65	0.22	500
FC322-70	0.22	1000
FC322-75	0.45	250
FC322-80	0.45	500
FC322-85	0.45	1000

Spare bottles

Sterile. With capacities as indicated. Supplied in packs of 24.

FC322-92 250ml
FC322-94 500ml
FC322-96 1000ml

Pre-filters

Glass microfibre (Grade GMF 150 1µm pore) discs that fit the Klari-Flex™ funnels to aid filtration of 'difficult' fluids. Supplied in packs of 20.

FC322-98 250ml units, 66mm diameter
FC322-99 500/1000ml units, 90mm diameter



FC320-15 ***FC320-10***



FC320-10/FC322 in use



FC322-05 to FC322-50

Inorganic Membrane Syringe Filters - Anotop

Whatman®

Disposable syringe filters designed for use in a wide range of sample filtration applications. Incorporates Anopore inorganic membranes with a precise non-deformable, even honeycomb pore structure. The membrane is sealed within a hexagonal shaped polypropylene body with luer lock fittings. These filters are compatible with most organic solvents and aqueous solutions. All versions are available in a gamma-irradiated sterile form and with glass microfibre pre-filter enabling larger volumes of difficult solutions to be filtered.

	Anotop 10	Anotop 10 Plus	Anotop 25	Anotop 25 Plus
Membrane diameter mm	10	10	25	25
Membrane type	Anopore — all models			
Prefilter type	—	Glass Microfibre	—	Glass Microfibre
Housing material	Polypropylene — all models			
Construction process:	Thermal weld — all models			
Extractable materials	Low	Low	Low	Low
Operating pressure maximum (psi)	100	100	100	100
Average membrane thickness µm	60	60	60	60
Device width mm	14	14	31	32
length mm	18	18	25	25
Inlet connection	Female luer lock — all models			
Outlet connection	Male luer		Male luer slip	
Hold-up volume µl	<20	<30	<150	<200

Supplied in packs as indicated.

Anotop 10

	Pore size µm	*Ref.*	*Pack qty.*
FC365-10	0.02	6809 1002	50
FC365-14	0.1	6809 1012	50
FC365-18	0.2	6809 1022	50
FC365-26	0.1	6809 1112	50 sterile
FC365-32	0.2	6809 1122	50 sterile

Anotop 10 Plus with prefilter

	Pore size µm	*Ref.*	*Pack qty.*
FC365-39	0.02	6809 3002	50
FC365-47	0.2	6809 3022	50

Anotop 25

	Pore size µm	*Ref.*	*Pack qty.*
FC367-15	0.02	6809 2002	50
FC367-20	0.1	6809 2012	50
FC367-25	0.2	6809 2022	50
FC367-30	0.2	6809 2024	200
FC367-40	0.1	6809 2112	50 sterile
FC367-45	0.2	6809 2122	50 sterile

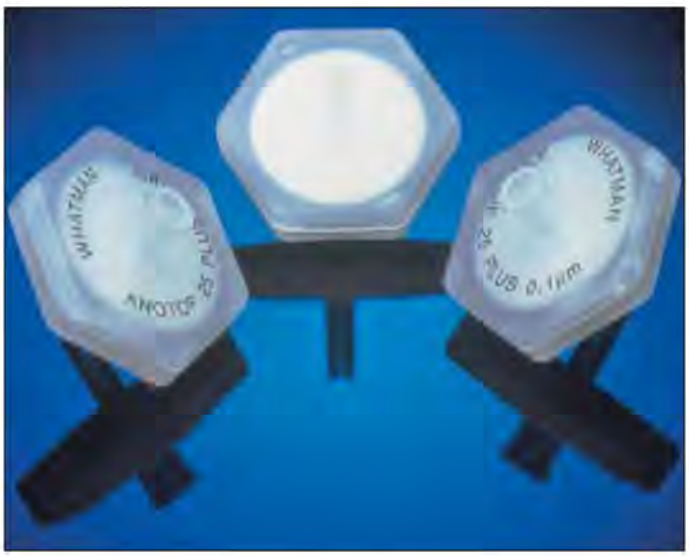
Anotop 25 Plus with prefilter

	Pore size µm	*Ref.*	*Pack qty.*
FC367-52	0.02	6809 4002	50
FC367-54	0.1	6809 4012	50
FC367-60	0.2	6809 4022	50
FC367-65	0.2	6809 4024	200

Anotop LC™ Syringe Filters

Designed for simple and effective sample preparation prior to HPLC, removing particulates which may damage and reduce the operating life of chromatography columns. An Anopore inorganic membrane is housed within a hexagonal shaped, pigment-free polypropylene body. Membrane pore sizes and filter pack sizes are as indicated. With luer slip female inlet and male outlet fittings.

µm	*Pore size mm*	*Dia.*	*Ref.*	*Pack qty.*
FC369-12	0.2	10	2001 0100	100
FC369-15	0.2	10	2001 0200	200



Puradisc™ Syringe Disc Filters, 4mm, 13mm and 25mm

Whatman

- For sample preparation and small volume filtration
- Full range of membrane and glass microfibre media
- Special outlet designed for use with microvials
- Ideal for HPLC sample preparation
- Very low hold-up volumes, <7.5µl
- Available individually sterile packed, where indicated

		4mm Disc			13mm Disc		
Media/Description	*Pore size µm*	*Cat. No.*	*Ref.*	*Pack qty.*	*Cat. No.*	*Ref.*	*Pack qty.*
PVDF w/t	0.2	—	—	—	FC376-11	6778 1302	50 sterile
	0.2	FC370-12	6777 0402	50	FC376-13	6777 1302	50
	0.45	FC370-18	6777 0404	50	FC376-19	6777 1304	50
PVDF	0.2	FC370-32	6779 0402	100	FC376-33	6779 1302	100
	0.45	—	—	—	FC376-39	6791 1304	50 sterile
	0.45	FC370-40	6779 0404	100	FC376-41	6779 1304	100
Polysulphone	0.2	—	—	—	FC376-55	6780 1302	50 sterile
	0.2	—	—	—	FC376-57	6782 1302	100
	0.45	—	—	—	FC376-65	6782 1304	100
Polypropylene	0.2	FC370-80	6788 0402	100	FC376-81	6788 1302	100
	0.45	FC370-86	6788 0404	100	FC376-86	6788 1304	100
PTFE w/t	0.2	—	—	—	FC378-06	6775 1302	50
	0.45	—	—	—	FC378-08	6775 1304	50
PTFE	0.1	—	—	—	FC378-14	6784 1301	100
	0.2	FC372-15	6784 0402	100	FC378-16	6784 1302	100
	0.45	FC372-19	6784 0404	100	FC378-20	6784 1304	100
	1.0	—	—	—	FC378-25	6784 1310	100
	5.0	—	—	—	FC378-30	6784-1350	100
Nylon 66	0.2	—	—	—	FC378-33	6786 1302	50 sterile
	0.2	—	—	—	FC378-35	6789 1302	100
	0.45	FC372-38	6789 0404	100	FC378-39	6789 1304	100
Glass Microfibre Media							
GF/A	1.6	—	—	—	FC378-85	6820 1316	100
GF/C	1.2	—	—	—	FC378-89	6822 1312	100
GF/D	2.7	—	—	—	FC378-91	6823 1327	100
GF/F	0.7	—	—	—	FC378-93	6825 1307	100

w/t: with tube tip for direct filtration into microvials.





		25mm Disc		
Media/Description	*Pore size µm*	*Cat. No.*	*Ref.*	*Pack qty.*
Polysulphone	0.2	FC388-15	6780 2502	50 sterile
	0.2	FC388-18	6781 2502	200
	0.45	FC388-23	6780 2504	50 sterile
	0.45	FC388-26	6781 2504	200
Nylon	0.2	FC388-43	6750 2502	50
	0.2	FC388-46	6751 2502	200
	0.45	FC388-49	6750 2504	50
	0.45	FC388-52	6751 2504	200
PTFE	0.2	FC388-66	6784 2502	50
	0.2	FC388-68	6785 2502	200
	0.45	FC388-75	6784 2504	50
	0.45	FC388-77	6785 2504	200
	1.0	FC388-84	6784 2510	50
Polypropylene	0.2	FC390-14	6786 2502	50
	0.2	FC390-17	6788 2502	200
	0.45	FC390-22	6786 2504	50
	0.45	FC390-25	6788 2504	200

VectaSpin™ Centrifuge Tube Filters

Whatman

Microcentrifuge tube filters, VectaSpin Micro

A pigment free, polypropylene, 2ml capacity (42 x 10.6mm) microcentrifuge tube with 400µl capacity filter insert. The insert is available in a choice of material. Particularly suitable for applications requiring extraction of material from small volume aqueous solutions and solvent treated samples. Maximum rcf 10000xg.

Typical applications include:

- Cell harvesting from culture media
- Particle removal from solvents
- Bacteria removal
- Liquid Chromatography sample preparation
- Fractionation/purification of proteins

Microfiltration units

Filter membrane material	*Pore size µm*	*Catalogue number*	*Ref.*	*Pack qty.*
PVDF	0.45	**FC395-37**	6831 0401	100
Polysulphone	0.2	**FC395-42**	6833 0201	100
Polypropylene	0.45	**FC395-67**	6832 0401	100

Ultrafiltration units

Filter membrane material	*Pore size MWCO**	*Catalogue number*	*Ref.*	*Pack qty.*
Cellulose triacetate	12K	**FC395-77**	6834 1001	100

*MWCO: Molecular weight cut-off (limit).

Centrifuge Tube Filters, VectaSpin 3

Generally as FC395 series but with 10ml (87 x 16.4mm) centrifuge tube and 3ml insert, allowing larger samples to be prepared. Maximum rcf 5000xg.

Microfiltration units

Filter membrane material	*Pore size µm*	*Catalogue number*	*Ref.*	*Pack qty.*
Polypropylene	0.45	**FC397-69**	6832 0405	25

Ultrafiltration units

Filter membrane material	*Pore size MWCO**	*Catalogue number*	*Ref.*	*Pack qty.*
Polysulphone	10K	**FC397-80**	6835 1005	25

*MWCO: Molecular weight cut-off (limit).

Centrifuge Tube Filters, VectaSpin 20

Generally as FC397 series but with 50ml (104 x 31mm) centrifuge tube with screw cap and 20ml insert. Maximum rcf 5000xg.

Coarse filtration units

Filter membrane material	*Pore size µm*	*Catalogue number*	*Ref.*	*Pack qty.*
Polypropylene	10	**FC398-20**	6838 0008	10
mesh	10	**FC398-25**	6838 0009	100

Microfiltration units

Filter membrane material	*Pore size µm*	*Catalogue number*	*Ref.*	*Pack qty.*
Polypropylene	0.45	**FC399-65**	6832 0408	10



FC395



FC397, FC398 and FC399 are similar

Filter microplates, Unifilter®

Whatman

Convenient, ready to use filtration devices in 96-well microplate format. Available in a choice of well capacities, 350µl, 800µl and 2000µl. Each well has a filter individually sealed into the base, below which runs a unique drip director to accurately deliver the filtrate into the receiving well of an accessory microplate positioned underneath, with no splashing or cross contamination. A wide range of filter media are offered to allow compatibility with a variety of sample types. Plates are manufactured in polystyrene (PS) for general use with biological samples or glass-filled polypropylene (GPP) for long term organic solvent exposure. The 350µl plates are mainly used for high throughput biological assay screening applications, protein kinase assays, receptor binding assays and cell immobilisation. 800µl and 2000µl filtration plates are used for high throughput screening sample preparation and clean up. Typical applications include cell-based immunoassay, nucleic acid isolation, sterile filtration of biological samples and compound library generation using parallel synthesis procedures. Supplied in pack quantities as indicated.

Cat. No.	*Ref. 7700-*	*Plate material* -colour*	*Media**	*Drip director type*	*Pack qty*
Unifilter 350, well volume: 350µl					
FC410-04	4303	PS-white	GF/B	Mesh	50
FC410-12	4301	PS-white	GF/C (hydrophobic)	Mesh	50
FC410-20	4312	PS-white	P81	Mesh	50
FC410-36	3303	PS-white	GF/B	Short	50
FC410-44	3301	PS-white	GF/C (hydrophobic)	Short	50
FC410-52	3312	PS-white	P81	Short	50
FC410-56	3306	PS-white	PVDF 0.45µm (hydrophilic)	Short	50
Unifilter 800, well volume: 800µl					
FC411-03	2803	PS-clear	GF/B	Long	25
FC411-06	2801	PS-clear	GF/C	Long	25
FC411-15	2810	PS-clear	GF/F	Long	25
FC411-19	2808	PS-clear	CA 0.45µm	Long	25
Unifilter 2000, well volume: 2000µl					
FC412-05	7203	GPP	GF/B	Long	25
FC412-15	7202	GPP	GF/C (hydrophobic)	Long	25
FC412-20	7211	GPP	GF/D	Long	25
FC412-25	7228	GPP	PKP	Long	10
FC412-40	7210	GPP	GF/F	Long	25

*Material/media key:

CA: Cellulose acetate
GF/-: Glass microfibre
GPP: Glass filled polypropylene
P81: Phosphate loaded cellulose
PKP: Polykryptonite
PS: Polystyrene



FC410

Accessories

Vacuum Assist Frame

Ensures an even vacuum across all wells, enabling the contents of the Unifilter plate to evacuate completely into the corresponding collection microplate. Fits on top of the Unifilter plate and is suitable for use with UniVac 1 and UniVac 3 manifolds (UniVac 3 is supplied with one frame).

FC412-99 Vacuum Assist Frame

Vacuum manifolds, UniVac®

Specially designed for use with Whatman Unifilter microplates providing a uniform pressure drop in each well, enabling the removal of all the liquid from the filter plate.

Univac 1 — Single station unit for use where the filtrate is not required for further analysis and can be drained to waste. With stopcock to control vacuum from an accessory vacuum pump.

Univac 3 — Designed for transferring liquid from the filter microplate to the corresponding well of an accessory collection late for further analysis. Constructed in PTFE-coated aluminium for resistance to most aggressive solutions (an all-PTFE version is also available) allowing cleaning/ sterilisation by common laboratory methods. With stopcock and gauge for precise and repeatable control of vacuum from an accessory vacuum pump (not supplied) and Vacuum Assist Frame ensuring complete and homogeneous evacuation of all wells.

FC414-10 UniVac 1 Polyurethane
FC414-60 UniVac 3 Aluminium
FC414-70 UniVac 3 PTFE



FC411 with FC414-10



FC412-99



FC414-60 in use

Syringeless Filters

Whatman

Provide a single disposable, manual pressure filtration system which is fast and easy to use in sample preparation.

- Built-in pre-filter for 'difficult' samples
- Minimal waste
- Ideal for hazardous samples

Syringeless Filters, Autovial™

Comprise a graduated, medical grade polypropylene barrel, maximum capacity 12ml, with 3cm² filter at the base, luer slip outlet and plunger. Filter membrane material as specified. Non-sterile. Supplied in packs of 50.

Filter membrane material	*Pore size, µm*	*Catalogue number*	*Ref.*
PVDF	0.2	FC415-08	AV125EAQU
	0.45	FC415-12	AV125UAQU
Nylon	0.45	FC415-16	AV125UNAO
PTFE	0.2	FC415-24	AV125EORG
	0.45	FC415-27	AV125UORG
Glass microfibre	0.45	FC415-33	AV125UGMF

Syringeless Filters, UniPrep™

Comprise a 5ml capacity medical grade polypropylene test tube which initially holds the sample, and hollow plunger incorporating a filter at the tip. In use the sample is manually pressure filtered into the plunger which then acts as a storage vial for the filtered sample. The plunger has a removable cap. Non-sterile. Supplied in packs of 50.

Filter membrane material	*Pore size, µm*	*Catalogue number*	*Ref.*
Glass microfibre	0.45	FC417-09	UN113UGMF
Nylon	0.45	FC417-16	UN113UNYL
PTFE	0.2	FC417-24	UN113EORG
	0.45	FC417-27	UN113UORG



FC415



FC417

Syringeless Filters, Mini-UniPrep™

A small-scale version (up to 500µl sample volume) of the UniPrep™ filter designed to fit into any HPLC autosampler which accommodates 12 x 32mm vials. Alternatively the lid septum can be pierced with a needle and the filtered sample drawn off for manual injection into an analyser. Overall height x diameter 33.2 x 11.7mm. Medical grade polypropylene chamber and plunger with aluminium cap and pierceable PTFE-faced silicone seal to the plunger. Filtration area: 0.3cm². Non-sterile, but autoclavable. Supplied in packs as indicated.

Filter membrane material	*Pore size, µm*	*Catalogue number*	*Ref.*	*Pack qty.*
Polypropylene	0.45	FC420-10	UN203NPUPP	100
	0.45	FC420-12	UN503NPUPP	1000
	0.45	FC420-14	UN203APUPP*	100
PTFE	0.45	FC420-18	UN203NPUORG	100
	0.45	FC420-20	UN503NPUORG	1000
	0.45	FC420-22	UN203APUORG*	100
PVDF	0.45	FC420-26	UN203NPUAQU	100
	0.45	FC420-28	UN503NPUAQU	1000
	0.45	FC420-30	UN203APUAQU*	100
Glass microfibre	0.45	FC420-34	UN203NPUGMF	100
	0.45	FC420-36	UN503NPUGMF	1000
	0.45	FC420-38	UN203APUGMF*	100
Nylon	0.45	FC420-42	UN203NPUNYL	100
	0.45	FC420-44	UN503NPUNYL	1000
	0.45	FC420-46	UN203APUNYL*	100
Polyether-sulphone	0.45	FC420-50	UN203NPUPES	100
	0.45	FC420-52	UN503NPUPES	1000
	0.45	FC420-54	UN203APUPES*	100

* With amber polypropylene body for use with light-sensitive samples.

Accessory compressors for FC420-series

Choice of single or multi-sample (up to 6) compressors to reduce sample processing time and hand fatigue.

FC422-02 Single sample compressor
FC422-06 6-sample compressor



FC420 with FC422-02 in use



FC420 with FC422-06 in use

Encapsulated Filters

Whatman®

A wide range of encapsulated disc and capsule filters, incorporating a variety of high performance glass microfibre and membrane media for the filtration and sterilisation of both liquids and gases.

Product Summary

Product	*Porosity µm*	*Media Type*	*Filter area cm²*	*Typical uses*
Disposable membrane filter discs				
POLYDISC TF	0.2	PTFE	16	Rapid filtration of aggressive solutions
POLYDISC TF	0.45	PTFE	16	
POLYDISC TF	1.0	PP/PTFE	16	
POLYDISC HD	5.0	PP	16	
POLYDISC HD	10.0	PP	16	
POLYDISC AS	0.2	AMEC	16	Rapid filtration of aqueous solutions
POLYVENT	0.2	PTFE	4	Environmental protection, venting
POLYVENT	0.2	PTFE	16	
VACUGUARD	—	PTFE	16	Vacuum pump exhaust
HEPA-VENT	—	GMF	16	Filtration air/gases
Disposable Filtration capsules				
HEPA-CAP 36	—	GMF	560	Sterilising air
HEPA-CAP 75	—	GMF	1300	
POLYCAP 36 HD	1.0	MAPP	260	Prefiltering up to 60°C. Can be used in either direction
POLYCAP 36 HD	5.0	MAPP	260	
POLYCAP 36 HD	10.0	MAPP	260	
POLYCAP 36 HD	20.0	MAPP	260	
POLYCAP 75 HD	1.0	MAPP	650	
POLYCAP 75 HD	5.0	MAPP	650	
POLYCAP 75 HD	10.0	MAPP	650	
POLYCAP 75 HD	20.0	MAPP	650	
POLYCAP 36 TF	0.2	PTFE	260	Aggressive chemical filtration
POLYCAP 36 TF	1.0	PP/PTFE	260	
POLYCAP 75 TF	0.2	PTFE	650	
POLYCAP 75 TF	1.0	PP/PTFE	650	
POLYCAP 36 AS	0.2	Nylon	300	Filtering aqueous solutions
POLYCAP 36 AS	1.0	Nylon	300	
POLYCAP 75 AS	0.2	Nylon	650	
POLYCAP 75 AS	0.45	Nylon	650	
CARBON CAP 75	—	Activated carbon		22,000m² Removing organics from gases/water
CARBON CAP 150	—	Activated carbon		70,000m²
VACUGUARD 150	—	PTFE and Chemical trap		Vacuum pump protection

AMEC Asymmetric Mixed Ester of Cellulose
GMF Glass Microfibre Filter
MAPP Mono filament Anisotropic Polypropylene
PP Polypropylene
PTFE Polytetrafluoroethylene



Disposable Filter Discs

Whatman®

Mounted in a rugged polypropylene housing. All have a low hold-up volume. Dimensions: 53 x 46mm diameter x length. Connections: For 6 to 10mm bore tubing. Also accept male luer slip.

Polydisc TF

- Hydrophobic PTFE membrane
- Pore sizes 0.2, 0.45 and 1µm
- 1µm pore size device has polypropylene pre-filter
- Autoclavable at 131°C for 20 minutes
- Max. operating pressure 4.1 bar

Ideal for the rapid filtration of chemically aggressive solutions as the PTFE membrane and polypropylene housing are resistant to a wide variety of solvents.

Manufactured in clean room conditions, the filter is very low in extractables and is biosafe. Accordingly the discs may be used for the filtration of aqueous buffers of cell culture media, if pre-wetted with methanol. Non sterile.

	Porosity, µm	*Pack qty.*
FC430-15	0.2	10
FC430-20	0.45	10
FC430-30	1.0	10

Polydisc AS

- 0.2µm asymmetric cellulose mixed ester membrane
- Maximum operating pressure 4.1 bar
- Glass microfibre prefilter with all pore sizes
- Supplied radiation sterilised with cap on outlet
- Can be autoclaved once at 131°C for 20 minutes

Designed principally for the filtration of aqueous solutions. Typical applications include the filtration of tissue culture media, reagent preparation, pharmaceutical preparations, enzymes, biologicals and particle counting solutions.

	Porosity, µm	*Pack qty.*
FC435-17	0.2	10



FC430, FC435

Disposable Filter Discs continued

Whatman™

Mounted in a rugged polypropylene housing. All have a low hold-up volume. Dimensions 53 x 46mm diameter x length and with connections for 6 to 10mm bore tubing unless otherwise stated.

Polydisc HD

- Polypropylene housing and membrane
- Pore sizes 5µm or 10µm
- Filtration area 16cm², able to filter up to 5 litres fluid before replacement
- Autoclavable at 131°C for 20 minutes
- Hold-up volume less than 0.1ml
- Maximum operating pressure 4.1 bar

Extremely versatile filter for aqueous samples and solvents. A high loading capacity and flowrate enable effective filtration for large volume sample preparation up to the 10µm level. Supplied in packs of 10.

FC436-35 Polydisc HD, 5µm
FC436-38 Polydisc HD, 10µm

PolyVENT

Encapsulated filters for in-line gas/air filtration or venting/isolation applications where a vessel contents require protecting from airborne contaminants, the environment requires protecting from the vessel contents, or sterility of the contents must be maintained during venting. Supplied in packs as indicated.

		PolyVENT 4	PolyVENT 16
Membrane size	*mm*	25 dia.	50 dia.
Material		0.2µm PTFE	0.2µm PTFE
Air flow rates	*litres/minute*	10	50
Device W x L	*mm*	28 dia. x 23	58 x 49
Inlet connection		Female luer lok tubing barb	6-10mm i.d. tubing barb
Outlet connection		Male luer slip tubing barb	6-10mm i.d. tubing barb

As described. Supplied in packs as indicated.

FC437-15 PolyVENT 4, pack of 50
FC437-18 PolyVENT 16, pack of 10

VacuGuard

- Hydrophobic PTFE membrane
- Maximum operating pressure 0.9 bar
- 99.97% of particles of 0.3 microns or larger are retained
- Reduces risk of cross contamination and aqueous aerosol contamination of vacuum pumps and aspiration systems
- Eliminates harmful bacterial exhaust fumes

A protection device for vacuum pumps and personnel. Harmful bacterial exhaust fumes are removed because of the particle size retention, and aqueous aerosols removed because of the hydrophobic membrane. Supplied in pack of 10.

FC440-10 VacuGuard

Hepa-Vent

- Laminated hydrophobic glass microfibre filter
- Wide range of chemical compatibility
- High loading capacity and high throughput filtration media
- Particle retention ≥ 0.3 micron
- Autoclavable up to 132°C
- Maximum operating pressure 4.1 bar

Ideal for rapid filtration of air or gases for sterile applications. The device is small and compact and yet able to filter large volumes of air at low pressures up to 4.1 bar, and has a high loading capacity. Non sterile. Supplied in pack of 10.

FC445-10 Hepa-Vent



FC436



FC437



FC440


FC445

Disposable Filtration Capsules

Whatman®

Mounted in a rugged polypropylene housing.

Technical Data

	Filtration area cm^2	*Housing volume ml*	*Tubing connections mm*	*Dimensions dia. x length mm*
Hepa-Cap 36	560	—	6-10	66 x 48
Hepa-Cap 75	1300	—	12	66 x 96
Polycap 36 HD	260	70	6-10	66 x 48
Polycap 75 HD	650	125	12	66 x 96
Polycap 36 TF	260	70	6-10	66 x 48
Polycap 75 TF	650	125	12	66 x 96
Polycap 36 AS	300	70	6-10	66 x 48
Polycap 75 AS	650	125	6-10*	66 x 96
PolyVent 500	500	70	9-13	66 x 48
PolyVent 1000	1000	125	9-13	66 x 96
Carbon Cap 75	22,000m^2	—	12	66 x 96
Carbon Cap 150	70,000m^2	—	12	66 x 183
VacuGuard 150	82,000m^2†	—	12	66 x 183

*The Polycap 75 AS 1µm porosity has connections for 12mm bore tubing.
†Activated carbon version only.





Hepa-Cap

- Laminated hydrophobic glass microfibre filter
- Choice of filtration areas
- Maximum operating pressure 4.1 bar
- Wide range of chemical compatibility
- High loading capacity and high throughput filtration media
- 99.97% of particles of 0.3 microns or larger are retained
- Autoclavable at up to 132°C

Ideal for the sterilisation of large volumes of air at low pressure, and is autoclavable. It is available in two sizes, depending upon the volume of air or gas to be filtered. Non sterile. Supplied singly.

FC445-50 Hepa-Cap 36
FC445-60 Hepa-Cap 75

Polycap HD

- Polypropylene monofilament depth filter
- Choice of filtration areas and porosities
- Maximum operating pressures 4.1 bar forward, 3.0 bar reverse
- Capsules may be used in either direction
- Low hold-up volume with air purge
- Operating temperature 60°C maximum

Ideal for use as prefilters. The capsule and filtration media are both polypropylene and are thus resistant to chemical attack. Supplied singly.

	Porosity µm		*Porosity µm*
Polycap 36 HD Non Sterile		**Polycap 75 HD Non Sterile**	
FC450-20	1	*FC450-60*	1
FC450-25	5	*FC450-65*	5
FC450-30	10	*FC450-70*	10
FC450-35	20	*FC450-75*	20

