

Laboratory Testing Equipment

Construction materials testing laboratories should be equipped with all the accessories and consumables for conducting the required tests, not least because any delay in testing can result in a costly delay to a building project. However, the cost of this equipment is negligible in comparison with project costs so it makes sense to ensure that sufficient stock is in place, both before and during the construction project.

A construction materials testing laboratory represents a potentially harsh environment for laboratory equipment, so it is important that the specified equipment is fit for use.

ELE International therefore only supplies robust, high quality equipment that is suitable for the demands of a materials testing laboratory.

Typically, lists of general laboratory equipment include sample handling and preparation equipment in addition to the general items that are necessary for everyday work. Electrical items include balances, ovens, sieves, shakers, stirrers, vacuum pumps, furnaces, water baths, water stills, thermometers, compressors, etc. General hardware includes items such as spatulas, filters and safety equipment, and the required plastic and glassware includes flasks, beakers, bottles, measuring cylinders, pipettes, etc. Chemicals and reference materials are also necessary.

ELE International is able to provide complete equipment lists to meet the requirements of international standard test methods.



Load Measurement

Clamped Boss Load Rings



Product Standards:

ASTM D3080, BS 1377, BS 1924, EN 12697-34

- Repeatability within 0.2% of indicated load.
- Accuracy within $\pm 1\%$ of indicated load.
- Works calibrated.

ELE Clamped Boss Load Rings are available in the range 1 kN to 50 kN. The available capacities and performance of ELE load rings satisfy the requirements for accurate load measurement for a wide range of testing applications. The repeatability and accuracy of all clamped boss load rings comply with the requirements of NIS 0415 Accreditation for the Calibration of Force Measuring Rings and Load Cells used in soil testing. The repeatability of all load rings is within 0.2% of indicated load and accuracy is $\pm 1\%$ of indicated load over the upper 80% of the working range, at the calibration loads. All clamped boss load rings are calibrated in kN and supplied with a calibration chart. Complete with a detachable nipple, all rings are supplied in a protective foam moulding.

Product Code	Product	Capacity			Typical Design Sensitivity			Overall Height (mm)	Approx Weight (kg)
		kN	kgf	lbf	N/div	kgf/div	lbf/div		
78-0060	Load ring - 2 kN	2.0	200	450	1.3	0.13	0.30	248	3.2
78-0160	Load ring - 3 kN	3.0	300	650	2.0	0.20	0.43	248	3.3
78-0260	Load ring - 4.5 kN	4.5	450	1000	3.0	0.30	0.66	248	3.5
78-0460	Load ring - 10 kN	10.0	1000	2250	7.7	0.77	1.73	248	4.6
78-0760	Load ring - 28 kN	28.0	2800	6000	25.5	2.54	5.45	248	5.4
78-0860	Load ring - 50 kN	50.0	5000	11200	45.5	4.54	10.18	248	7.9

Electronic Balances



Product Code	Product
78-5325/01	Electronic Balance - 210 g x 0.1 mg
78-5335/01	Electronic Balance - 220 g x 0.001 mg
78-5405/01	Electronic Balance - 620 g x 0.001 g
78-5430/01	Electronic Balance - 820 g x 0.001 g
78-5447/01	Electronic Balance - 3600 g x 0.01 g
78-5456/01	Electronic Balance - 4600 g x 0.01 g

Product Code	Product
78-5457/01	Electronic Balance - 8000 g x 0.1 g
78-5477/01	Electronic Balance - 16000 g x 0.5 g
78-5485/01	Electronic Balance - 20000 g x 0.1 g
78-5527/01	Electronic Balance - 32000 g x 1.0 g
78-5655/01	Electronic Balance - 75000 g x 5.0 g
78-5657/01	Electronic Balance - 75000 g x 20.0 g
78-6000/01	Electronic Balance - 200 g x 0.001 g
78-6010/01	Electronic Balance - 1200 g x 0.01 g
78-6020/01	Electronic Balance - 6000 g x 0.1 g
78-6030/01	Electronic Balance - 15000 g x 1.0 g
78-6040/01	Electronic Balance - 30000 g x 1.0 g
78-6050/01	Upright Loading Balance - 50000 g x 10000 g

Mechanical Balances

Harvard Trip Balance

Product Code: 78-7090



Specifications

Specific Gravity	Equipped for specific gravity weighing (components not included, order separately)
Capacity (g)	2000
Resolution (g)	0.1
Pan Size dia (mm)	2 x 150
Overall Dimensions L x W x H (mm)	152 x 356 x 254
Weight (kg)	2.7

Weights for Harvard Trip Balance

Product Code: 78-7110

Product Standards:

ASTM class 6

Triple Beam Balance

Product Code: 78-7140



Specifications

Capacity (g)	2610
Resolution (g)	0.1
Pan Size dia (mm)	150
Overall Dimensions L x W x H (mm)	451 x 161 x 168
Weight (kg)	2.1
Platform	Stainless Steel plate; 6 inches (152 mm) dia except for scale with scoop models
Damping	Magnetic
Attachment Weights (g)	One 500; two 1,000 (included)

Load Measurement

Heavy-Duty Solution Balance

Product Code: 78-7600



Specifications

Capacity (g)	20,000
Resolution (g)	1.0
Pan Size dia (mm)	280
Overall Dimensions L x W x H (mm)	279 x 864 x 279
Beams (g)	1,000 x 100; 100 x 1; Two sliding weights
Tare (g)	2,270
Platform	Stainless Steel plate; 11 inches (279 mm) dia
Damping	Magnetic
Attachment Weights (g)	Slotted ratio type; one 1,000; two 2,000; one 5,000; one 10,000 (included)
Weight	Net 44 lbs (19.9 kg)

Digital Hotplate

Digital Hotplate

Product Code: 78-3104/01



Fitted with digital setting of plate temperature controlled via microprocessor. Includes digital temperature indication. Temperature display resolution of $\pm 1^\circ\text{C}$.

Specifications

Power Supply	220-240 V AC, 50 Hz, 1 ph
Dimensions (mm)	520 x 360 x 130
Construction	Robust metal with anodised aluminium plate, heated surface
Max temperature ($^\circ\text{C}$)	300 x 1
Rated power (W)	1500

Hotplate

A hotplate offers an alternative method of drying materials in bulk. Even heat distribution is not as good as an enclosed chamber, however sensible use of the hotplate will often enable test requirements to be met satisfactorily.

Hotplate

Product Code: 78-2950/01



Specifications

Power Supply	220-240 V AC, 50-60 Hz, 1 ph
Construction	Cast-iron top and base, ventilated sheet-steel body
Nominal dia (mm)	200
Max Temperature (°C)	500
Rated Power (W)	2000
Weight (kg)	5

Drying & Weighing

Ovens

**Product Standards:**

BS 1377, BS 1924, BS 2648, BS 598, BS 598-104, EN 12697-32, EN 13280-4

These ovens are designed for drying large quantities of soils and aggregate samples, and maintain temperature in accordance with BS 1377.

Drying Ovens and Specifications

Product Code	Power Supply	Fluctuation Temp.	Shelves	Positions	Capacity (litres)	Internal Dimensions (mm)	Temp. Range
78-1215/01	220-240 V AC, 50-60 Hz, 1 ph	+/- 0.75°C	2	3	50	330 x 490 x 330	40-250°C
78-1225/01	220-240 V AC, 50-60 Hz, 1 ph	+/- 0.75°C	3	4	100	460 x 490 x 450	40-250°C
78-1235/01	220-240 V AC, 50-60 Hz, 1 ph	+/- 0.75°C	3	5	150	540 x 490 x 550	40-250°C
78-1250/01	220-240 V AC, 50 Hz, 1 ph	+/- 0.75°C	3	4	225	440 x 920 x 600	0-200°C
78-0135/01	220-240 V AC, 50-60 Hz, 1 ph	+/- 0.75°C	4	5	425	640 x 920 x 760	0-200°C
78-0140/03	415 V AC, 50-60 Hz, 3 ph	+/- 0.75°C	5	8	750	770 x 920 x 1060	40-250°C

Accessories:

Dial Thermometer 0-300°C, 40 mm diameter, dial with collar fixing, fan door (78-1245).

Particle Size Analysis

Particle Size Analysis is probably performed in most, if not all, laboratories engaged in testing materials for civil engineering applications. The range of sieves offered include ISO, EN, BS and ASTM sieves. Woven wire test sieves are manufactured from Stainless Steel mesh. Perforated plate test sieves are manufactured from tinned steel plate. All test sieves, unless otherwise indicated, are supplied with full-depth frames.

Sieves 200 mm diameter BS

Product Standards:

BS 410-1, EN933-2, ISO 3310, ISO 3310-1, ISO 565

Product Code	Aperture Size	Type
79-0030	32 µm	Mesh
79-0040	38 µm	Mesh
79-0050	45 µm	Mesh
79-0060	53 µm	Mesh
79-0070	63 µm	Mesh
79-0080	75 µm	Mesh
79-0085	80 µm	Mesh
79-0090	90 µm	Mesh
79-0095	100 µm	Mesh
79-0100	106 µm	Mesh
79-0110	125 µm	Mesh
79-0120	150 µm	Mesh
79-0125	160 µm	Mesh
79-0130	180 µm	Mesh
79-0135	200 µm	Mesh
79-0140	212 µm	Mesh
79-0150	250 µm	Mesh
79-0160	300 µm	Mesh
79-0165	315 µm	Mesh
79-0170	355 µm	Mesh
79-0175	400 µm	Mesh
79-0180	425 µm	Mesh
79-0190	500 µm	Mesh
79-0200	600 µm	Mesh
79-0210	710 µm	Mesh
79-0215	800 µm	Mesh
79-0220	850 µm	Mesh
79-0230	1.00 mm	Mesh
79-0240	1.18 mm	Mesh
79-0245	1.25 mm	Mesh
79-0250	1.40 mm	Mesh
79-0255	1.60 mm	Mesh
79-0260	1.70 mm	Mesh
79-0270	2.00 mm	Mesh
79-0280	2.36 mm	Mesh
79-0285	2.50 mm	Mesh



Product Code	Aperture Size	Type
79-0290	2.80 mm	Mesh
79-0300	3.35 mm	Mesh
79-0310	4.00 mm	Mesh
79-0320	4.75 mm	Mesh
79-0340	6.70 mm	Mesh
79-1500	4.00 mm	Perforated
79-1510	4.75 mm	Perforated
79-1515	5.00 mm	Perforated
79-1520	5.60 mm	Perforated
79-1525	6.30 mm	Perforated
79-1530	6.70 mm	Perforated
79-1540	8.00 mm	Perforated
79-1550	9.50 mm	Perforated
79-1555	10.00 mm	Perforated
79-1560	11.20 mm	Perforated
79-1565	12.50 mm	Perforated
79-1570	13.20 mm	Perforated
79-1575	14.00 mm	Perforated
79-1580	16.00 mm	Perforated
79-1590	19.00 mm	Perforated
79-1595	20.00 mm	Perforated
79-1600	22.40 mm	Perforated
79-1605	25.00 mm	Perforated
79-1610	26.50 mm	Perforated
79-1615	28.00 mm	Perforated
79-1630	31.50 mm	Perforated
79-1640	37.50 mm	Perforated
79-1655	50.00 mm	Perforated
79-1660	53.00 mm	Perforated
79-1670	63.00 mm	Perforated
79-1680	75.00 mm	Perforated
79-0010	-	Lid
79-0020	-	Receiver

Particle Size Analysis

Sieves 300 mm diameter BS

Product Standards:

BS 410-1, EN933-2, ISO 3310, ISO 3310-1, ISO 565



Product Code	Aperture Size	Type
79-2040	38.00 mm	Mesh
79-2070	63.00 mm	Mesh
79-2080	75.00 mm	Mesh
79-2085	80.00 mm	Mesh
79-2090	90.00 mm	Mesh
79-2095	100.00 mm	Mesh
79-2110	125.00 mm	Mesh
79-2120	150.00 mm	Mesh
79-2130	180.00 mm	Mesh
79-2135	200.00 mm	Mesh
79-2140	212.00 mm	Mesh
79-2150	250.00 mm	Mesh
79-2160	300.00 mm	Mesh
79-2165	315.00 mm	Mesh
79-2170	355.00 mm	Mesh
79-2175	400.00 mm	Mesh
79-2180	425.00 mm	Mesh
79-2190	500.00 mm	Mesh
79-2200	600.00 mm	Mesh
79-2205	630.00 mm	Mesh
79-2220	850.00 mm	Mesh
79-2230	1.00 mm	Mesh
79-2240	1.18 mm	Mesh
79-2245	1.25 mm	Mesh
79-2255	1.60 mm	Mesh
79-2260	1.70 mm	Mesh
79-2270	2.00 mm	Mesh
79-2280	2.36 mm	Mesh
79-2285	2.50 mm	Mesh
79-2290	2.80 mm	Mesh
79-2300	3.35 mm	Mesh
79-2310	4.00 mm	Mesh
79-2320	4.75 mm	Mesh
79-2500	4.00 mm	Perforated
79-2510	4.75 mm	Perforated

Product Code	Aperture Size	Type
79-2515	5.00 mm	Perforated
79-2520	5.60 mm	Perforated
79-2525	6.30 mm	Perforated
79-2530	6.70 mm	Perforated
79-2540	8.00 mm	Perforated
79-2545	9.00 mm	Perforated
79-2550	9.50 mm	Perforated
79-2555	10.00 mm	Perforated
79-2560	11.20 mm	Perforated
79-2563	12.00 mm	Perforated
79-2565	12.50 mm	Perforated
79-2570	13.20 mm	Perforated
79-2575	14.00 mm	Perforated
79-2580	16.00 mm	Perforated
79-2590	19.00 mm	Perforated
79-2595	20.00 mm	Perforated
79-2600	22.40 mm	Perforated
79-2603	24.00 mm	Perforated
79-2605	25.00 mm	Perforated
79-2610	26.50 mm	Perforated
79-2615	28.00 mm	Perforated
79-2630	31.50 mm	Perforated
79-2640	37.50 mm	Perforated
79-2645	40.00 mm	Perforated
79-2650	45.00 mm	Perforated
79-2655	50.00 mm	Perforated
79-2660	53.00 mm	Perforated
79-2670	63.00 mm	Perforated
79-2680	75.00 mm	Perforated
79-2684	80.00 mm	Perforated
79-2690	90.00 mm	Perforated
79-2710	125.00 mm	Perforated
79-2010	-	Lid
79-2020	-	Receiver

Sieves 450 mm diameter BS

Product Standards:

BS 410-1, EN933-2, ISO 3310, ISO 565

Product Code	Aperture Size	Type
79-3070	63 µm	Mesh
79-3080	75 µm	Mesh
79-3085	80 µm	Mesh
79-3090	90 µm	Mesh
79-3095	100 µm	Mesh
79-3110	125 µm	Mesh
79-3120	150 µm	Mesh
79-3135	200 µm	Mesh
79-3140	212 µm	Mesh
79-3150	250 µm	Mesh
79-3160	300 µm	Mesh
79-3165	315 µm	Mesh
79-3180	425 µm	Mesh
79-3190	500 µm	Mesh
79-3200	600 µm	Mesh
79-3205	630 µm	Mesh
79-3220	850 µm	Mesh
79-3230	1.00 mm	Mesh
79-3240	1.18 mm	Mesh
79-3245	1.25 mm	Mesh
79-3255	1.66 mm	Mesh
79-3260	1.70 mm	Mesh
79-3270	2.00 mm	Mesh
79-3280	2.36 mm	Mesh
79-3285	2.50 mm	Mesh
79-3300	3.35 mm	Mesh
79-3320	4.75 mm	Mesh
79-3500	4.00 mm	Mesh
79-3510	4.75 mm	Perforated
79-3515	5.00 mm	Perforated
79-3525	6.30 mm	Perforated
79-3530	6.70 mm	Perforated
79-3540	8.00 mm	Perforated
79-3550	9.50 mm	Perforated
79-3555	10.00 mm	Perforated
79-3565	12.50 mm	Perforated
79-3570	13.20 mm	Perforated

Product Code	Aperture Size	Type
79-3575	14.00 mm	Perforated
79-3580	16.00 mm	Perforated
79-3590	19.00 mm	Perforated
79-3595	20.00 mm	Perforated
79-3600	22.40 mm	Perforated
79-3605	25.00 mm	Perforated
79-3610	26.50 mm	Perforated
79-3615	28.00 mm	Perforated
79-3630	31.50 mm	Perforated
79-3640	37.50 mm	Perforated
79-3645	40.00 mm	Perforated
79-3655	50.00 mm	Perforated
79-3660	53.00 mm	Perforated
79-3670	63.00 mm	Perforated
79-3680	75.00 mm	Perforated
79-3684	80.00 mm	Perforated
79-3710	125.00 mm	Perforated

Particle Size Analysis

Sieves 8 inch diameter ASTM

Product Standards:

ASTM E11



Product Code	Aperture Size	Type
79-5320	25 µm	Mesh
79-5310	20 µm	Mesh
79-5300	38 µm	Mesh
79-5290	45 µm	Mesh
79-5280	53 µm	Mesh
79-5270	63 µm	Mesh
79-5260	75 µm	Mesh
79-5250	90 µm	Mesh
79-5240	106 µm	Mesh
79-5200	212 µm	Mesh
79-5230	125 µm	Mesh
79-5220	150 µm	Mesh
79-5210	180 µm	Mesh
79-5190	250 µm	Mesh
79-5180	300 µm	Mesh
79-5170	355 µm	Mesh
79-5160	425 µm	Mesh
79-5150	500 µm	Mesh
79-5140	600 µm	Mesh
79-5130	710 µm	Mesh
79-5120	850 µm	Mesh
79-5110	1.00 mm	Mesh
79-5100	1.18 mm	Mesh
79-5090	1.40 mm	Mesh
79-5080	1.70 mm	Mesh
79-5070	2.00 mm	Mesh
79-5060	2.36 mm	Mesh
79-5050	2.80 mm	Mesh
79-5040	3.35 mm	Mesh
79-5030	4.00 mm	Mesh
79-5020	4.75 mm	Mesh
79-5010	5.60 mm	Mesh
79-5000	6.30 mm	Mesh

Product Code	Aperture Size	Type
79-5490	6.70 mm	Mesh
79-5500	8.00 mm	Mesh
79-5510	9.50 mm	Mesh
79-5520	11.20 mm	Mesh
79-5530	12.50 mm	Mesh
79-5540	13.20 mm	Mesh
79-5550	16.00 mm	Mesh
79-5560	19.00 mm	Mesh
79-5570	22.40 mm	Mesh
79-5580	25.00 mm	Mesh
79-5595	31.50 mm	Mesh
79-5610	37.50 mm	Mesh
79-5630	50.00 mm	Mesh
79-5650	63.00 mm	Mesh
79-5660	75.00 mm	Mesh
79-5670	90.00 mm	Mesh
79-5680	100.00 mm	Mesh
79-5400	8 inch	Lid
79-5410	8 inch	Receiver

Sieves 12 inch diameter ASTM

Product Standards:
ASTM E11



Product Code	Aperture Size	Type
79-6100	38 μm	Mesh
79-6090	45 μm	Mesh
79-6080	53 μm	Mesh
79-6070	63 μm	Mesh
79-6060	75 μm	Mesh
79-6050	90 μm	Mesh
79-6040	106 μm	Mesh
79-6030	125 μm	Mesh
79-6020	150 μm	Mesh
79-6010	180 μm	Mesh
79-6000	212 μm	Mesh
79-5990	250 μm	Mesh
79-5980	300 μm	Mesh
79-5970	355 μm	Mesh
79-5960	425 μm	Mesh
79-5950	500 μm	Mesh
79-5940	600 μm	Mesh
79-5930	710 μm	Mesh
79-5920	850 μm	Mesh
79-5910	1.00 mm	Mesh
79-5900	1.18 mm	Mesh
79-5890	1.40 mm	Mesh
79-5880	1.70 mm	Mesh
79-5870	2.00 mm	Mesh
79-5860	2.36 mm	Mesh
79-5850	2.80 mm	Mesh
79-5840	3.35 mm	Mesh
79-5830	4.00 mm	Mesh
79-5820	4.75 mm	Mesh
79-5810	5.60 mm	Mesh
79-5800	6.30 mm	Mesh
79-6190	6.70 mm	Mesh
79-6200	8.00 mm	Mesh
79-6210	9.50 mm	Mesh

Product Code	Aperture Size	Type
79-6220	11.20 mm	Mesh
79-6230	12.50 mm	Mesh
79-6240	13.20 mm	Mesh
79-6250	16.00 mm	Mesh
79-6260	19.00 mm	Mesh
79-6270	22.40 mm	Mesh
79-6280	25.00 mm	Mesh
79-6290	26.50 mm	Mesh
79-6300	31.50 mm	Mesh
79-6310	37.50 mm	Mesh
79-6320	45.00 mm	Mesh
79-6330	50.00 mm	Mesh
79-6340	53.00 mm	Mesh
79-6350	63.00 mm	Mesh
79-6360	75.00 mm	Mesh
79-6370	90.00 mm	Mesh
79-6380	100.00 mm	Mesh
79-6400	125.00 mm	Mesh
79-6150	-	Lid
79-6160	-	Receiver

Particle Size Analysis

Washing Sieve

Washing Sieve 75 µm


Product Standards:

BS 410-1, ISO 3310, ASTM E11

Specifications

Product Code	Dia (inches)	Depth to Mesh (mm)
79-7010	3	76 x 89 x 76
79-7015	8	203 x 114 x 102
79-7020	8	203 x 114 x 102
79-7025	8	203 x 216 x 203
79-7030	8	203 x 216 x 203

Wet Washing Spray Attachment

Product Code: 79-7040

Specifications

Spray Nozzle	Machined Brass
Gauge	30 psi (207 kPa) capacity
Fittings	Standard Pipe
Weight	Net 11 lbs (5 kg)

Sieve Brushes

Sieve Brush Brass & Nylon

Product Code: 79-7200


Product Standards:

ASTM E11

Double-ended, brass and nylon bristle.

Sieve Brush Nylon

Product Code: 79-7210


Product Standards:

ASTM E11

Nylon, double-ended.

Sieve Shakers

Hand sieving of a large number of samples can often be tedious and sometimes lead to inaccuracy of results. The following machine provides a wide choice of options for the busy laboratory.

Sieve Shaker

Product Codes: 80-0200/01, 80-0200/06



The ELE sieve shaker is powered by an electromagnetic drive that has no rotating parts to wear, making it maintenance free and extremely quiet in operation. The unit features a triple Vertical-Lateral-Rotary vibrating action that moves the sample over the sieve producing faster more efficient sieving, while the rapid vertical movements also help keep the apertures from blinding. The shaker is ideal for laboratory or on site use. It is robust, compact and sufficiently lightweight to be portable. The separate digital microprocessor controlled console unit incorporates a keypad for setting the sieving program and is isolated from any effects of vibration from the shaker. As standard the shaker includes a timer, 0-999 minutes, adjustable vibration intensity and adjustable intermittent or continuous operation.

Further Information:

The unit accepts up to ten 200 mm or 8 inch, full height, diameter sieves, lid and receiver, or up to six 300 mm or 12 inch diameter sieves, lid and receiver.

Specifications	
Dimensions L x W x H (mm)	380 x 440 x 1085
Power Supply	
80-0200/01	110-240 V AC, 50-60 Hz, 1 ph
80-0200/06	220-240 V AC, 60 Hz, 1 ph

Accessories:

200 mm Wet Sieving Pan and Lid for Sieve Shaker complete with two Seals (80-0200/11)

300 mm Wet Sieving Pan and Lid for Sieve Shaker complete with two Seals (80-0200/12)

Spring for Sieve Shaker (80-0200/13)

Air Jet Sieves

200 mm diameter x 25 mm

Product Code	Aperture Size
80-0300/10	45 μ m
80-0300/11	32 μ m
80-0300/12	40 μ m
80-0300/13	40 μ m
80-0300/14	200 μ m
80-0300/15	20 μ m
80-0300/16	38 μ m
80-0300/17	63 μ m
80-0300/18	75 μ m
80-0300/19	Adaptor and Covers for Test Sieves
80-0350/01	Industrial vacuum cleaner

Air Jet Sieving Machine

Product Code: 80-0300/09

- Sieving with air jet technology for dispersion and desagglomeration of fine powders.
- Requires suitable industrial vacuum cleaner.

Specifications

Power Supply	100-240 V AC, 50-60 Hz, 1 ph
--------------	------------------------------

Laboratory Hardware

Laboratory Hardware

The laboratory hardware listed provides a comprehensive range of products suitable for most general test applications.

Stand, Bosshead & Clamp

Support Assembly

Product Code: 81-0094



➤ Retort stand, bosshead and clamp for general purpose.

Spatulas

Product Code	Product
81-0100	Spatula 100 mm
81-0120	Spatula 150 mm
81-0140	Spatula 200 mm
81-0160	Spatula 254 mm
81-0180	Chattaway Spatula 125 mm

Scoops & Shovels

Product Code	Product
81-0200	Scoop 70 x 110 x 40 mm, cast aluminium with handle
81-0220	Scoop 120 x 190 x 70 mm, cast aluminium with handle
81-0222	Scoop 250 mm long x 125 mm dia. Stainless Steel, 5 kg capacity
81-0240	Shovel with flat blade 250 x 300 mm, weight 3 kg

Trowels & Floats

Product Code	Product
81-0310	Trowel, gardeners type, Stainless Steel blade
81-0335	Trowel, gauging with steel blade, 200 mm long, complies with BS 4550
81-0340	Float, plasterer's type, with steel blade 280 x 115 mm, weight 450 g

Rubber Tubing

Product Code	Product	Internal Dia	Outside Dia
81-0373	Rubber Tubing	5.0 mm	13.0 mm
81-0375	Rubber Tubing	6.5 mm	16.5 mm

Watches & Clocks

Product Standards:

EN 12697-5

Product Code	Product
81-0518	Timer Clock. Battery-operated. Easy to read digital display of hours, minutes and seconds. Timer counts down and sounds beeping tone. Clock functions independently of timer. Supplied complete with battery. Dimensions 58 x 13 x 64 mm (L x W x H).
81-0521	Stop Watch. LCD quartz watch, features alarm, time/calendar display, 30 minute count in 1/100 seconds. Battery-operated. Dimensions 53 x 19 x 64 mm (L x W x H).

Miscellaneous Laboratory Hardware

Grouped Product Standards:

BS 1377, EN 933-4

Product Code	Product	Size/Capacity
81-0480	Crucible Tongs, Straight	200 mm long
81-0500	Heavy-Duty Rubber Gloves	-
81-0508	Heat-Resistant Gloves with Gauntlet	150 x 0.1 mm
81-0586	Vernier Caliper	150 x 0.1 mm
81-0588	Vernier Caliper	0-200 x 0.02
81-0590	Vernier Caliper	0-200 x 0.01
81-0594	Chisel - Masonry Type	-
81-0705	Wire Brush	-
81-0710	Trimming Knife	130 mm long
81-0713	Straight Edge	300 mm long
81-0715	Straight Edge	455 mm long
81-0805	Engineer's Steel Rule	300 mm long
81-4765	Polythene Bag - Pack of 100	380 x 254 mm
81-4775	Polythene Bag - Pack of 50	450 x 1000 mm
81-5100	Rubber Bucket	9 ltrs (2 gal)
81-0708	Wire Saw	-

Beakers & Bowls

Product Code	Product	Capacity (ltrs)
81-4779	Beaker	0.5
81-5020	Bowl	2.5
81-5040	Bowl	5
81-5060	Bowl	11

Moisture Content Tin & Sample Containers

Product Code	Product	Capacity
81-2979	Moisture Content Tin, Tin Plate, (unnumbered), 90 mm dia x 20 mm deep	90 g
81-3000	Sample Container, Tinned Steel, Lever Lid	0.5 ltrs
81-3040	Sample Container, Tinned Steel, Lever Lid	2.5 ltrs
81-3060	Sample Container, Tinned Steel, Lever Lid	10 ltrs
81-3500	Sample Container, Plastic, Snap-on Lid	1 ltrs
81-3540	Sample Container, Plastic, Snap-on Lid	10 ltrs
81-3545	Transport/Storage Container	22 ltrs

Sample Trays

Product Code	Product
81-4010	Sample Tray, Heavy-duty, Galvanised Steel, nesting 270 x 270 x 38 mm
81-4020	Sample Tray, Heavy-duty, Galvanised Steel, nesting 306 x 306 x 38 mm
81-4030	Sample Tray, Heavy-duty, Galvanised Steel, nesting 406 x 406 x 50 mm
81-4080	Sample Tray, Heavy-duty, Galvanised Steel, nesting 610 x 610 x 63 mm
81-4160	Sample Tray, Heavy-duty, Galvanised Steel, nesting 910 x 910 x 76 mm
81-4230	Sample Tray, Heavy-duty, Galvanised Steel, nesting 1200 x 1160 x 50 mm
81-4700	Sample Tray, Stainless Steel spinning, without seams 305 mm dia x 50 mm

Wire Baskets

Product Code	Product
81-4819	Wire Basket, BS 812 Type 1, EN 1367-2, 65 mm dia x 80 mm deep, 150 μ m wire mesh
81-4821	Wire Basket, BS 812 Type 2, EN 1367-2, 95 mm dia x 120 mm deep, 600 μ m wire mesh
81-4823	Wire Basket, BS 812 Type 3, EN 1367-2, 95 mm dia x 120 mm deep, 1.18 mm wire mesh
81-4825	Wire Basket, BS 812 Type 4, EN 1367-2, 120 mm dia x 120 mm deep, 3.35 mm wire mesh

Glass & Plastic Ware

Beakers & Covers

Product Code	Product	Capacity (ml)
82-0120	Beaker, Borosilicate Glass, Squat Form	100
82-0140	Beaker, Borosilicate Glass, Squat Form	250
82-0200	Beaker, Borosilicate Glass, Squat Form	600
82-0220	Beaker, Borosilicate Glass, Squat Form	1000
82-0260	Beaker Cover, Watch Glass, Borosilicate Glass, 100 mm dia	-
82-0270	Beaker Cover, Watch Glass, Borosilicate Glass, 125 mm dia	-
82-0276/80	Pyrex Conical Beaker	500

Bottles & Crucibles

Product Code	Product	Capacity (ml)
82-1540	Weighing Bottle, Glass with Stopper, 25 x 50 mm dia x H	-
82-2500	Wash Bottle, Polythene	500
82-3060	Reagent Bottle, Amber Glass Plastic Stopper	1000
82-3120	Polythene Storage Bottle	500
82-3145	Polythene Bottle, Wide Neck, Screw Cap	1000
82-3149	Polythene Bottle, Wide Neck, Screw Cap	5000
82-3320	Porcelain Crucible complete with Lid	30
82-3320/80	Porcelain Crucible	30
82-3325	Porcelain Lid for 82-3320	

Desiccators

Product Code	Product
82-2100/10	Perforated Ceramic Disc for 200 mm Non-Vacuum Desiccator
82-2100/11	Perforated Ceramic Disc for 200 mm Non-Vacuum Desiccator with Centre Hole
82-2100	Desiccator, Non-Vacuum Type, 200 mm internal dia, Borosilicate Glass, supplied with Perforated Zinc Disc
82-2110	Desiccator Cabinet, Non-Vacuum, internal dimensions 300 x 300 mm, Acrylic Plastic with 1 Shelf and 2 Desiccant Trays
82-2170	Desiccator, Vacuum Type, 280 mm internal dia, Soda Glass, supplied with Perforated Zinc Disc and Stopcock
82-2180	Safety Cage for 82-2170

Evaporating Dishes

Product Code	Product	Dia x H (mm)
82-1970	Evaporating Dish, shallow form with Spout, Porcelain	100 x 40
82-2000	Evaporating Dish, shallow form with Spout, Porcelain	150 x 45
82-2010	Evaporating Dish, shallow form with Spout, Porcelain	200 x 55

Funnels & Flasks

Product Code	Product	Capacity (ml)
82-1000	Volumetric Flask, Soda Glass, stoppered to BS ISO 1042 Class B	100
82-1020	Volumetric Flask, Soda Glass, stoppered to BS ISO 1042 Class B	250
82-1040	Volumetric Flask, Soda Glass, stoppered to BS ISO 1042 Class B	500
82-1060	Volumetric Flask, Soda Glass, stoppered to BS ISO 1042 Class B	1000
82-1120	Conical Flask (Erlenmeyer), Borosilicate Glass, wide mouth graduated, 100 ml sub-divisions (nominal)	500
82-1140	Conical Flask (Erlenmeyer), Borosilicate Glass, wide mouth graduated, 50 ml sub-divisions (nominal)	250
82-2200	Buchner Funnel, Size No. 5, accepts 110 mm dia Filter Paper	-
82-2200/81	Vac Ring Filterseal for Buchner Funnel, No. 5	-
82-2330	Filter Flask	500
82-2350	Filter Flask, Conical type with Integral Side Arm	1000
82-2460	Extraction Flask	250
82-2660	Funnel, Polythene, 200 mm dia	-
88-6230	Plastic Filtering Flask	-

Measuring Cylinders, BS

Product Code	Product	Capacity (ml)
82-0380	Measuring Cylinder, Soda Glass, Spouted, BS EN 4788	100
82-0420	Measuring Cylinder, Soda Glass, Spouted, BS EN 4788	250
82-0460	Measuring Cylinder, Soda Glass, Spouted, BS EN 4788	500
82-0500	Measuring Cylinder, Soda Glass, Spouted, BS EN 4788	1000
82-1840	Measuring Cylinder, Plastic with Spout, Graduated to BS 5404	100
82-1860	Measuring Cylinder, Plastic with Spout, Graduated to BS 5404	250
82-1880	Measuring Cylinder, Plastic with Spout, Graduated to BS 5404	500
82-1900	Measuring Cylinder, Plastic with Spout, Graduated to BS 5404	1000
82-1920	Measuring Cylinder, Plastic with Spout, Graduated to BS 5404	1000

Pipettes & Burettes

Product Code	Product	Capacity (ml)
82-1240	Graduated Pipette, Type 1, Class B, BS 700, 0.10 ml sub-divisions	10
82-1260	Graduated Pipette, Type 1, Class B, BS 700, 0.25 ml sub-divisions	25
82-1300	Bulb Pipette, BS 1583	50
82-1320	Bulb Pipette	100
82-1440	Burette, Soda Glass with Single-Bore Stopcock, BS EN ISO 385 Class B, 0.10 sub-divisions	50

Syringe & Stirring Rod

Product Code	Product
82-2820	Syringe with Rubber Bulb, weight 500 g
82-4005	Glass Stirring Rod, 7 mm dia x 200 mm long, Pack of 10

Temperature Measurement

Hydrometers, Aggregate Testing

Product Standards:

BS 812, EN 1367-2, ASTM C88, AASHTO T104

Product Code	Product
82-3505	Hydrometer, type L50, ASTM C88, graduated 1150 to 1200 relative density (used with sodium sulphate method)
82-3510	Hydrometer, type L50, ASTM C88, graduated 1250 to 1300 relative density (used with magnesium sulphate method)

General-Purpose Thermometers

Product Code	Product
82-5310	Maximum and Minimum Thermometer, non hazardous
82-5311	Surface Thermometer, flat surface type with approximately 64 mm dia dial, accuracy $\pm 3^{\circ}\text{C}$

Non Hazardous Glass Thermometers

Product Standards:

BS 2000-58, EN 1427

Product Code	Temp Range ($^{\circ}\text{C}$)	Divisions	Immersion
82-5005	-10 to +260	1.0 $^{\circ}\text{C}$	76 mm
82-5270	-1 to +51	0.1 $^{\circ}\text{C}$	Total
82-5272	-1 to +101	0.2 $^{\circ}\text{C}$	Total
82-5274	-10 to +210	1 $^{\circ}\text{C}$	Total

Portable Dial-Type Thermometers

Product Code	Product
82-5243	Portable Thermometer, 64 mm dia dial with a 650 mm long stem
82-5244	Portable Thermometer, 25 mm dia dial with a 90 mm long stem and protective sheath
82-5245	Portable Thermometer, 25 mm dia dial with a 100 mm long stem and protective sheath
82-5246	Portable Thermometer, 50 mm dia dial with a 200 mm long stem and protective sheath
82-5247	Portable Thermometer, 50 mm dia dial with a 180 mm long stem
82-5248	Portable Thermometer, complies with BS 598 for temperature measurement of bituminous mixes prior to and during laying. Graduated in 2 $^{\circ}\text{C}$ divisions with a stem length of 300 mm and accurate to $\pm 2^{\circ}\text{C}$

Digital Thermometers

Digital Pocket Thermometer

Digital Pocket Thermometer

Product Code: 82-5420



The Stainless Steel probe carries a highly accurate platinum sensor and when not in use folds back into the side of the instrument. With a clear 8 mm high LCD display this instrument is powered by a standard 12 V MN21 battery or equivalent.

Specifications

Temp Range (°C)	-49.9 to +199.9
Dimensions L x W x H (mm)	150 x 45 x 19
Range (°C)	-49.9 to 199.9
Resolution (°C)	0.1
Accuracy (°C)	±0.4
Weight (g)	105

Hand-Held Digital Thermometers

- Splash-proof membrane circuitry.
- Complete with probes and case.

This Hand-held Digital Thermometer is ideal for laboratory or site use. The unit provides for Celsius and/or Fahrenheit display to a clear LCD, powered by a standard 9 V PP3 battery or equivalent. The thermometer is supplied complete with surface probe, penetration probe, battery and case.

Digital Thermometer

Product Code: 82-5442

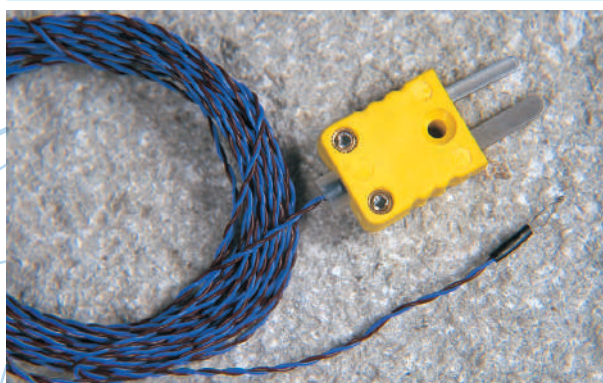


Specifications

Range	-75°C to +1200°C or -30°C to +199.9°C or -75°F to +1999°F
Resolution and Accuracy	1°C (-75°C to +1200°C), 0.2% ± 0.1°C, 0.1°C (-30°C to +199.9°C), 0.2% ± 1.0°C, 1°F (-75°F to +1999°F), 0.2% ± 2.0°F
Cold Junction (Automatic)	0°C to 45°C
Weight (g)	500

Thermocouple Wire

Product Code: 82-5440/10



3 metre length, suitable for 82-5440 Digital Thermometer. The thermocouple is NiCr/NiAl PTFE covered with a naked exposed junction. Supplied with a coupling unit, the maximum reading is 250°C with a tip diameter of 0.5 mm (Pack of 5).

Specifications

Nominal Dia (mm)	0.5
------------------	-----

General

Chemicals, Test
& Reference Materials

Product Code	Product
82-7031	Paraffin Wax, no hazard, (congealing point approx 49°C), 5 kg block
82-7091	Silica Gel, Coarse, no hazard, 500 g
82-7171	Sodium Sulphate, Anhydrous, no hazard, 3 kg
82-7341	Mould Oil, no hazard, 25 ltr drum
82-7401	Standard Sand, 600/300 µm, Fraction C, no hazard, 25 kg
82-7441	Standard Sand, ASTM, no hazard, 25 kg
82-7442	Standard Sand to ASTM C778 for use in Test ASTM 20/30
82-7451	Standard Sand, 850/600 µm, no hazard, 25 kg

Filter Papers (Box of 100)

Product Code	Product	Dia (mm)
82-7861	Filter Paper	55 x 400
82-7901	Filter Paper	74 x 150
82-7926	Filter Paper	44 x 150
82-7931	Filter Paper	95 x 110

Air Compressors

Air Compressor Unit 1000 kPa

Product Codes: 83-1735/01, 83-1735/06



Specifications

Dimensions L x W x H (mm)	1321 x 457 x 914
Free Air Delivery	6.0 cfm
Receiver Capacity (ltrs)	116
Max Pressure	1380 kPa
Continuous Working Pressure	1000 kPa
Water Trap	Yes
Weight (kg)	149
Product Code	Power Supply
83-1735/01	220-240 V AC, 50 Hz, 1 ph
83-1735/06	220-240 V AC, 60 Hz, 1 ph

Air Compressor Unit 700 kPa

Product Code: 83-1730/01

Specifications

Dimensions L x W x H (mm)	483 x 457 x 864
Free Air Delivery	2.0 cfm
Receiver Capacity (ltrs)	50
Max Pressure	1000 kPa
Continuous Working Pressure	700 kPa
Power Supply	220-240 V AC, 50 Hz, 1 ph
Water Trap	No
Weight (kg)	57

Vacuum Pumps

Product Code	Product
82-7700	Filter Pump
82-7720/01	Vacuum Pump
82-7720/02	Vacuum Pump

Vacuum Pumps

Product Codes: 82-7720/01, 82-7720/02



Specifications

Type	Single stage
Pump	Oil filled rotary
Ultimate Vacuum	4 x 10 ⁻² mbar
Displacement	42 ltrs per minute (2.4 m ³ /hour)
Weight (kg)	12.7
Product Code	Power Supply
82-7720/01	220-240 V AC, 50-60 Hz, 1 ph
82-7720/02	110 V, 60 Hz, 1 ph

Spares/Consumables:

Vacuum Oil, 4 litre (82-7720/10)

Accessories:

Rubber Tubing (81-0375)

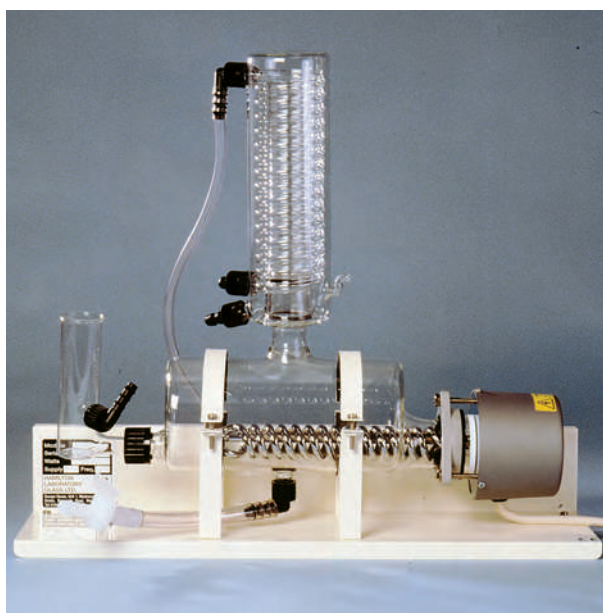
Water Trap Filtering Kit (82-7720/12)

High Vacuum Pump (88-3110/02)

Distilled Water Still

Distilled Water Still

Product Code: 82-8020/01



Specifications

Dimensions L x W x H (mm)	590 x 530 x 940
Boiling Chamber	Glass
Condenser	Borosilicate glass
Output	3.5 ltrs/hr when permanently connected to water supply
Power Supply	220-240 V AC, 50-60 Hz, 1 ph
Rated Power (kW)	2.75
Weight (kg)	12

Accessories:

Heating Element (82-8020/10)

Replacement Condenser (82-8020/11)

Water Baths

Specifications

Product Code	Power Supply	Capacity (ltrs)
82-8500/01	220-240 V AC, 50-60 Hz, 1 ph	12
82-8600/01	220-240 V AC, 50-60 Hz, 1 ph	18
82-8650/01	220-240 V AC, 50-60 Hz, 1 ph	22

General

Masonry Saw

Masonry Saw

Product Codes: 82-8950/01, 82-8950/02, 82-8960/01



Specifications

Dimensions L x W x H (mm)	1195 x 705 x 1350	
Rated Power (W)	2200	
Weight (kg)	120	
Product Code	Power Supply	Cutting Depth with 300 mm dia Blade (mm)
82-8950/01	220-240 V AC, 50 Hz, 1 ph	110
82-8950/02	110 V AC, 60 Hz, 1 ph	110
82-8960/01	220 V AC, 50 Hz, 1 ph	150

Diamond Blade

Product Code: 82-8950/12, 82-8960/12

Wet cutting. Depth of cut 110 mm.

Specifications

Product Code	Nominal dia (mm)
82-8950/12	350
82-8960/12	450

Dial Gauges

Product Code	Product	Travel (mm)	Grad (mm)	Back Type
83-5416	Dial gauge	25	0.01	C
83-5451	Dial gauge	10	0.002	B
83-5456	Dial gauge	10	0.01	A

Dial Indicators

Product Code	Product
88-4070	Dial Indicator 0.4 inch Range
88-4080	Dial Indicator 10 inch Range
88-4100	Dial Indicator 1 inch Range
88-4110	Dial Indicator 25 inch Range
88-4120	Dial Indicator 1 inch Range with 0.001 inch Divisions Counter-Clockwise
88-4130	Dial Indicator 25 mm Range with 0.1 mm Divisions Counter-Clockwise
88-4158	Magnetic Dial Indicator

Furnaces

Muffle furnaces are widely used for determining various properties of construction materials.

Muffle Furnace

Product Codes: 83-4170/01, 83-4170/06



Product Standards:

EN 196-2, EN 459-2, EN 13454-2, BS 1016-4, ISO 344, ISO 1171, ASTM D2361, ASTM D2795, ASTM D3714

Specifications

External Dimensions L x W x H (mm)	545 x 385 x 400
Work Chamber Dimensions L x W x H (mm)	300 x 200 x 120
Internal Volume (ltrs)	6.9
Max Temperature (°C)	1200
Power (kW)	5
Weight (kg)	130
Product Code	Power Supply
83-4170/01	220-240 V AC, 50-60 Hz, 1 ph
83-4170/06	220-240 V AC, 60 Hz, 1 ph

Spares/Consumables:

Controller for use in 83-4170/01 (83-4170/11)
 Heating Element for use in 83-4170/01 (83-4170/14)
 Heating Element and Refractory Brick
 for use in 83-4170/01 (83-4170/12)
 Refractory Brick for use in 83-4170/01 (83-4170/13)
 Thermostat, KGrade, 370 mm long x 2.5 mm diameter,
 for 83-4170/01 (83-4170/10) Product Standards

High Temperature Laboratory Furnace 1600°C (Muffle Furnace Alternative)

Product Code: 83-4180/01

BS EN 61010-2-010:2014, BS EN 61326-1:2013

Features:

- 1600°C maximum operating temperature.
- Controller, with single ramp to set-point and process timer.
- 3 litre chamber volumes.
- Soft closing parallel action door.
- Silicon carbide heating elements provide long life and are able to withstand the stresses of intermittent operation.
- Have a cast alumina hearth.
- Low thermal mass insulation for high energy efficiency.

Specifications

External Dimensions L x W x H (mm)	655 x 435 x 610 (905 - door open)
Internal Dimensions L x W x H (mm)	120 x 120 x 205
Internal Volume (ltrs)	3
Max Temperature (°C)	1600
Configuration	Bench Top
Max Power (W)	4500
Holding Power (W)	2300
Weight (kg)	42

Environmental Test Equipment

FIELD & GENERAL LABORATORY INSTRUMENTATION KEY AREAS



Soil

- Sampling
- Classification
- Analysis
- Water
- Physics
- Survey



Water

- Quality
- Flow
- Sampling
- Level



Meteorology

- Rain
- Wind
- Temp/Humidity
- Light
- Evaporation
- Pressure



Crop Science

- Plant Physiology
- Seed Technology
- Crop Processing