

LOT I

LABORATORY OVENS, FORCED VENTILATION, DIGITAL THERMOSTAT HIGH TEMPERATURE UNIFORMITY AND PRECISION

STANDARDS: EN 932-5 | EN 1097-5 | BS 1924 :1

ASTM C127, C136, D558, D559, D560, D698, D1557, D1559

Especially suitable when high temperature uniformity and precision inside the chamber are required.

The temperature accuracy and uniformity meet the tolerances requested by the Standards.

The interior chamber, the grid shelves and the exterior front part are stainless steel made, while external walls are made of zinc coated steel.

Sturdy manufacture, double walled with 60 mm thick glass fibre for thermal insulation.

Temperature from ambient to 200 °C is controlled by a digital precision thermoregulator-indicator. The oven is equipped with a dual safety thermostat with higher thermic threshold to prevent accidental over-temperatures, and to ensure safe working conditions.

The oven is supplied complete with two grid shelves easily removable which can be positioned at various heights with pilot light and exhaust holes for fast cooling.

Power supply: 230V 50-60Hz 1ph



A008-07 KIT

Model	Capacity litres	Inside dimensions mm L D H	Outside dimensions mm L D H	Doors n°	Wattage	Weight kg	Spare grid shelf steel
A008-01 KIT	100	400x420x600	700x515x910	1	1250	45	A008-51
A008-03 KIT	220	600x610x600	900x725x910	1	2050	70	A008-52
A008-05 KIT	440	900x700x700	1250x760x1000	2	3700	95	A008-53
A008-07 KIT	750	900x640x1300	1250x700x1600	2	4950	140	A008-54

MAIN FEATURES

- Forced ventilation airflow.
- Digital temperature control system.
- Temperature precision and uniformity as requested by EN, BS Spec.
- Stainless steel chamber and trays.
- Insulation by 60 mm thick glass fibres.
- Dual thermostat ensuring safe working conditions.



A008-05 KIT

ACCESSORY

A006-08 MERCURY CONTROL THERMOMETER 0-300 °C div. 1 °C.

S230 KIT ASTM | AASHTO BALLOON DENSITY APPARATUS 1600 ML CAPACITY

STANDARDS: ASTM D2167 | AASHTO T205 | CNR N° 22

Used to determine the in-situ density of fine graded compacted or bonded soil. The apparatus is placed over the hole excavated in the soil, and water is pumped into a rubber balloon and forced into the hole. The amount of water displaced into the balloon is measured from the graduation of the scale.

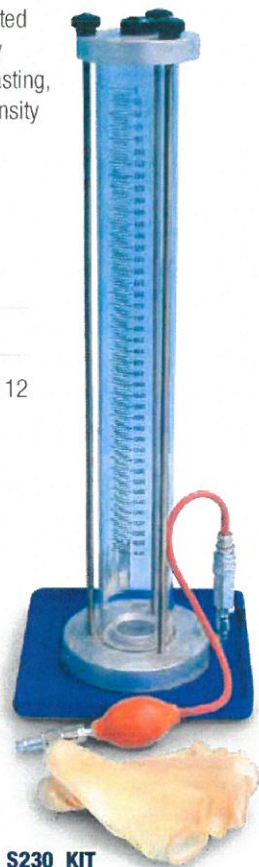
The instrument consists of a graduated plexiglass cylinder 1600 ml capacity housed within an aluminium alloy casting, a rubber pump with stop valve, a density plate and 12 rubber balloons.

Dimensions: 340x340x700 mm

Weight: 6 kg approx.

SPARE

S230-01 Rubber balloons, pack of 12



S230 KIT

S232 KIT NF BALLOON DENSITY APPARATUS

3000 ML CAPACITY

STANDARD: NF P94-061-2

Used to determine the in-situ density of fine graded compacted or bonded soil, this unit has the same test system of mod. S230 KIT, but with a capacity of 3000 ml as requested by French Specification. A hand-driven piston forces the water into the rubber membrane. A dial gauge measures the water pressure so to execute all the test at the same pressure.

An index engraved on the stem of the piston measures the volume of water filling the hole.

The unit is supplied complete with 6 reinforced rubber membranes, 4 locking clamps, base plate, accessories.

Dimensions: 360x360x700 mm

Weight: 10 kg approx.

SPARE

S232-01 Reinforced rubber membrane, pack of 6



S232 KIT

S233 KIT

S233 KIT NF BALLOON DENSITY APPARATUS

6000 ML CAPACITY

Identical to mod. S232 KIT, but with capacity of 6 litres.

Weight: 15 kg approx.

SPARE

S233-01 Reinforced rubber membrane, pack of 6

ACCESSORIES

Used for levelling, digging, collecting and maintaining the soil samples:

S240-01 SCRAPER to level the ground	V198 CHISEL 300 mm long x 25 mm wide
S240-02 METAL DIBBER TOOL	V186 DENSITY SPOON, big sized
S240-05 METAL POINTED ROD	V188 TROWEL, 100x200 mm
V195 RUBBER Mallet Ø 50 mm	V183 ALUMINIUM SCOOP 325 cc
V193 STEEL HAMMER 300 g	V125-03 TINNED CAN 5 litre cap.
V194 STEEL HAMMER 2 kg	
V199 DENSITY PICK	



S240-01...V199



S114 Universal Extruder

(Asphalt - Soil)

EN 13286-47 AASHTO T193 UNE 103:502 CNR UNI 10009 ASTM D1883 NFP98-231-1 NF P94-093 NF P94-078 BS 1924:2 BS 1377-4

Used to extrude samples having diameters of 4", 6", 100 mm, 150 mm.

It can therefore extrude **CBR, Marshall and Proctor specimens**. The extruder is actuated by a 50 kN hydraulic jack, having ram travel of 190 mm + 170 mm screw.

Supplied complete with adaptors.

Dimensions: Ø 300x500 mm

Weight: 32 Kg approx

METAL CONTAINERS AND PRODUCTS**MIXING BOWLS**, stainless steel

Model	Diameter
V116-03	160 mm
V116	240 mm
V116-01	290 mm
V116-02	340 mm

V116-02



V112-05

V116-03

V116

V112-05**MORTAR AND PESTLE**, stainless steel, Ø 135 mm**TINS**, with or without cover

- V122** Ø 55 x 36 mm aluminum, with cover
V122-01 Ø 55 x 65 mm aluminum, with cover
V122-02 Ø 75 x 50 mm aluminum, with cover
V122-03 Ø 57 x 32 mm aluminum, without cover
V122-04 Ø 45 x 13 mm aluminum, without cover
V122-05 Ø 55 x 35 mm brass, without cover
V122-06 Ø 70 x 45 mm brass, without cover
V122-07 Ø 90 x 20 mm aluminum, with cover
V122-08 Ø 55 x 40 mm aluminum, without cover
V122-11 Ø 55 x 36 mm aluminum, without cover



V122...



V125-12...V125-18

PLASTIC CONTAINERS WITH AIRTIGHT LID

Pack of 10 pieces

Model	Capacity	Handle	Quantity
V125-12	1 litres	no	10 pcs
V125-16	6.1 litres	yes	10 pcs
V125-18	12.5 litres	yes	10 pcs

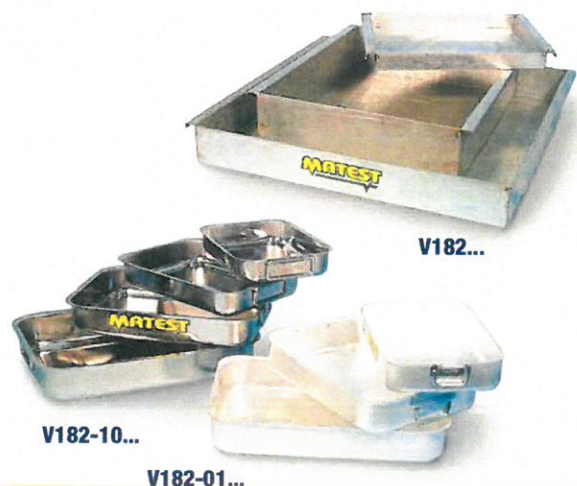
SAMPLE CONTAINERS, TINNED STEEL, AIRTIGHT LID

Model	Capacity
V125	0.5 litre
V125-01	1 litre
V125-02	3 litres
V125-03	5 litres
V125-04	11 litres

V125...V125-04

**PANS** aluminum, galvanized and stainless steel made

Model	Dimensions mm	Material
V182	600x600x80	galvanized steel
V182-03	500x400x120	galvanized steel
V182-04	250x120x80	galvanized steel
V182-06	306x306x38	galvanized steel
V182-07	460x460x50	galvanized steel
V182-08	910x910x76	galvanized steel
V182-01	370x260x50	aluminum
V182-02	330x220x50	aluminum
V182-05	270x180x50	aluminum
V182-10	265x195x47	stainless steel
V182-11	315x240x50	stainless steel
V182-12	370x270x57	stainless steel
V182-13	420x305x60	stainless steel



V182...

V182-10...

V182-01...

SCOOPS

ROUND ALUMINIUM

Model	Dimensions mm	Capacity ml
V183	245x80	325
V184	260x90	500
V184-01	335x120	1000
V184-02	380x145	1550
V184-03	420x160	2600

FLAT ALUMINIUM

Model	Dimensions mm	Capacity ml
V184-04	210x70	165
V184-05	310x110	450

ROUND STAINLESS STEEL

Model	Dimensions mm	Capacity ml
V185	100x185	500 ml
V185-01	120x200	1000 ml
V185-02	150x270	2000 ml
V185-03	125x250	5 kg of concrete

STANDARDS: EN 12350-1 | UNI 9416
BS 1881:101



NEW

V185...V185-02



V189

V188



V185-03

V184-04



V198

SPATULAS

FLEXIBLE, STAINLESS STEEL

Model	Blade length mm
V192	100
V192-01	150
V192-02	200
V192-03	300

RIGID, STAINLESS STEEL

Model	Blade width mm
V192-04	20
V192-05	50
V192-06	70
V192-07	100

V192-08 CHATTAWAY SPATULA 120 mm long.

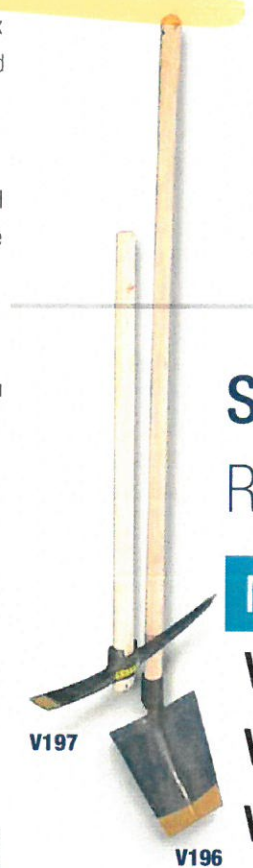


V186



V192-08

- A068-05** SCOOP steel made, 700x300x
- V186** SAMPLING SPOON, large sized
- V186-01** LADLE, stainless steel
- V187** RECTANGULAR TROWEL 120x260 mm stainless steel
- V188** TROWEL 100x200 mm - stainl
- V189** TROWEL 60x140 mm - stainle
- V193** STEEL HAMMER, 300 g
- V194** STEEL MALLET, 1000 g
- V194-01** STEEL MALLET, 2000 g
- V195** RUBBER MALLET, head Ø 55 n
- V196** SHOVEL, with handle
- V197** PICK MATTOCK, with handle
- V198** DENSITY CHISEL, 300 mm long x 25 mm wide
- V199** DENSITY PICK, small sized
- S124** WIRE SAW
- S125** TRIMMING KNIFE



V196

S
R

LOT II

DIGITAL THERMOMETERS

Complete with depth stainless steel probe, for temperature measurements of liquid, fluid, semisolid, granular materials, air. The probe is directly connected to the digital unit.

Model	Temp. range °C	Resolution °C	Accuracy °C	Probe dimensions Ø x length
V150	-50 +150	0.1	± 0.3	3x105 mm
V151	-50 +220	0.1	± 0.3	5x125 mm
V152	-40 +550	1	± 2	3x130 mm

V153

DIGITAL THERMOMETER, including remote probe connected to the instrument with a cable 1 metre long.

Temperature range: -50 +150 °C

Resolution: 0.1 °C. Accuracy: ± 0.3 °C

Stainless steel probe Ø 3x160 mm

**V154****DIGITAL MICROPROCESSOR THERMOMETER**

Rugged, easy to use portable instrument with K type sensor for high temperature measurements, it is equipped with a membrane keyboard and microprocessor with memory functions of: hold, min/max temperatures measured in the cycle, readings in °C or °F.

Dual temperature range: -50 to +200 °C resol. 0.1 °C
+200 to +1350 °C resol. 1 °C

Accuracy: ± 0.5% full scale

Power supply: 1x9 V battery with 500 hours use

Supplied **without** probe to be selected and ordered separately.

ACCESSORIES

Stainless steel probes, complete with 1 metre cable and connector

V154-01 PENETRATION PROBE Ø 3x120 mm

Max temperature: 900 °C

V154-02 SURFACE PROBE, Ø 16x260 mm

Max temperature: 650 °C

V154-03 AIR PROBE, Ø 3x245 mm. Max temperature: 300 °C

V154-04 GENERAL PURPOSE PENETRATION PROBE, Ø 5x220 mm

Max temperature: 900 °C

V154-05 K-TYPE THERMOCOUPLE 5 m long

V154-06 COUPLING UNIT

C216**FOUR CHANNELS THERMOMETER**

k-type thermocouple with SD card data recorder for precast concrete.

Technical data and accessories: see p. 338

V155**INFRARED THERMOMETER**

To measure surface temperatures without touching the object.

Measuring range: -50 °C +750 °C

Resolution: (

Functions: H

Battery type:

**C216****MATE****V154****V154-01...**

B059M
SMARTIP
FULLY AUTOMATIC PENETROMETER

STANDARDS: EN 1426 | ASTM D5 | AASHTO T49 | ASTM D217 | BS 1377-2 | NF T66-004 | DIN 52210 | IP 49 | JIS K 2207



SMARTIP is an automatic apparatus for the determination of the needle penetration value, avoiding any possible operator lack of concentration and ensuring a reliable repeatability of the results. It is a smart instrument thanks to the latest technologies adopted, the integrated microprocessor control and the user-friendly interface.

The instrument automatically reaches the contact point before starting the test and the penetration result is measured thanks to a high performance contactless displacement transducer. SMARTIP can be implemented with the device for an automatic measurement of electrically conductive samples (model B059M-01), in order to improve the material tested range. An ultra-bright LED lamp helps the operator in checking the touching point of the needle while a stepper motor controls the vertical movement to reach exactly the desired point without any manual movement of the plunger. The needle probe is automatically released for each penetration thanks to an electromagnetic system and automatically blocked at the end of the test.

The plunger comes back at the initial position at the end of each test by a simple recall command in order to re-positioning the needle before the new measurement.

A 7" touch screen display is included in the SMARTIP frame, easy to use. It shows in real time the penetration/time graph, the test temperature and the average result according to the number of tests done. Unlimited results can be saved on USB device for preparing a laboratory report and for further analysis.

SMARTIP is supplied complete with the accessories for determination of the needle penetration according to EN 1426, ASTM D5 and AASHTO T49 standards, and USB flash drive for saving data. Thermostatically controlled water bath, chiller, temperature probe PT100, device for an automatic measurement of electrically conductive samples and mirror can be ordered separately as accessories.

MAIN FEATURES

- Fully automatic test, simply pressing the **START** button: approach, touch point, penetration.
- Automatic identification of the needle contact point and needle positioning, avoiding any possible operator lack of concentration and ensuring a reliable repeatability of the results.
- Electro-magnetic needle probe release to perform the test.
- Automatic zero at the contact before starting penetration.
- Penetration measurement thanks to a high-tech contactless displacement transducer with 0.01 mm resolution, in a range of 0 - 50 mm.
- 7" touch screen display equipped with an user-friendly software and clear interface.
- Real time display of penetration/time curve, average result and test temperature.


**B059M-01
SMARTIP**

Same as B059M but implemented with device for testing electrically conductive samples.

TECHNICAL SPECIFICATION

- Measuring range: 0 – 50 mm;
- Resolution: 0,01 mm;
- 7" touch screen display;
- Test time 5 s (adjustable from 0 to 9999 s);
- Programmable delay time: from 0 to 999 s;
- Programmable reference positions for holder assembly: 8;
- Test simultaneously displayed: up to 10;
- Connection: USB port and LAN port for PC connection;

Power supply: 110-230V 50-60Hz 1ph

Overall dimensions: 325x400x730 mm

Weight approx.: 25 Kg approx.



B058M



B058

B058-01



B058-01

ACCESSORY

B058 THERMOSTATICALLY controlled water bath.
Technical details: see p. 142

B058-01 WATER BATH DISH with incorporated thermostatic coil, to be connected to the bath mod. B058. It keeps the temperature of the bitumen sample directly on the penetrometer, by avoiding to transfer it.
Dimensions Ø 151x90 mm

B058M WATER CHILLER: 7.5 l capacity, with electronic temperature controller with ± 0.1 °C accuracy and fluid temperature range between 5 and 30°C. Suitable for chilling penetrometer water baths or temperature controlled setting time tests

- 230 V 50-60Hz 1ph
- Power consumption: 350 W
- Overall dimensions: 415x300x420 mm
- Weight: 15 kg approx.

B059M-11 TEMPERATURE PROBE, PT100: Measurement of the sample temperature in real time. It's connected with the monitor in order to show the temperature during each test, to collect the data at the end of penetration and to include the temperature data in the final reading

B057-08 THERMOMETER, IP 38C

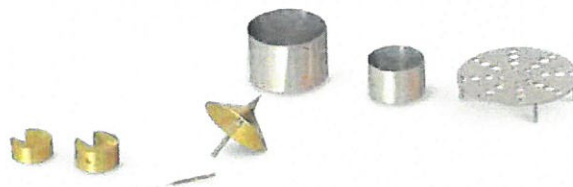
B057-06 PENETRATION NEEDLE conforming to EN 1426 and ASTM D5, supplied with official UKAS certificate

B057-07L LONG NEEDLE hardened

B057-03 GLASS TRANSFER DISH

B056-09 PENETRATION BALL

B057-09 STANDARD PENETRATION CONE conforming to ASTM D217 and EN 13880-2



SPARES for B059M

V122-05 Sample cup 55x35 mm

V122-06 Sample cup 70x45 mm

B057-07 PENETRATION NEEDLE, individually verified

B057-04N 50 g weight

B057-05N 100 g weight

B070M SOFTMATIC AUTOMATIC DIGITAL RING AND BALL APPARATUS

STANDARDS: EN 1427 | ASTM D36 | AASHTO T53 | NF T66-008;
comparable to: BS 2000 | DIN 52011 | UNE 7111
UNI 4161 | CNR N.35

This high technology digital microprocessor tester, designed and manufactured by Matest, automatically determines the softening point of asphalts and pitches.

Two laser sensors detect the balls fall determining the softening point.

The bath temperature is measured by an electronic system maintaining the gradient (5 °C/min) as specified by the Standards.

A magnetic stirrer with electronic speed adjustment from 0 to 160 rpm also ensures a uniform temperature in the vessel during the test execution.

The cooling system enables to quickly cool down the samples, allowing to perform many more tests per day.

The **touch-screen** graphical interface allows an easy set up of the parameters and the immediate execution of the test. High resolution color display, 800x480 pixel, offers all the functions of a PC for the management and analysis of data, test results, and graphs.

Two test parameters can be selected in the microprocessor menu:

- test on boiled distilled water for softening point from 30 to 80 °C.
- test on glycerol for softening point from 80 up to 150 °C.

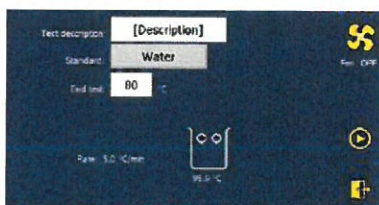
The tester is basically composed of:

- Ceramic-glass heating plate with automatic cut off at the end of the test cycle.
- Motherboard with microprocessor, which controls: heater/stirrer, temperature probe, laser sensors, pre-heating phase of the plate, and memorizes all the test parameters.
- Steel balls centering device.

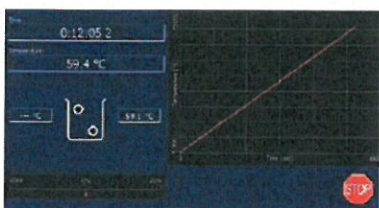
Power supply: 230V 1ph 50-60Hz 700W

Dimensions: 435x330x510 mm

Weight: 20 kg approx.



Test execution



Temperature-Time graph

ACCESSORY

B070-11

RODS WITH SPHERICAL ENDS (set of 2 pieces)
for checking and calibration of the instrument.



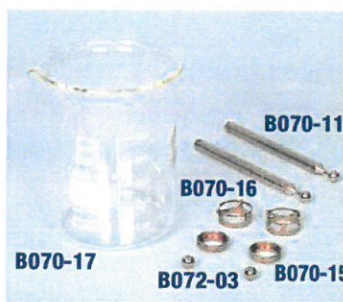
B070M

MAIN FEATURES

- Real time display of the Temperature (°C)-Time(sec) graph along the entire test.
- Touch-screen TFT LCD graphic display, 800x480 pixels, 7 inches.
- Unlimited memory (USB pendrive, internal Micro SD) editable data via PC.
- Multilanguage selection.
- Microprocessor friendly-driven menu to control all the test phases.
- Top quality components: laser sensors, electronic magnetic stirrer, ceramic-glass heating plate.
- Fully automatic.

SPARES

- B072-03** Steel ball 9.5 mm diameter
- B070-15** Brass tapered ring, chromed
- B070-16** Brass centering guide, chromed
- B070-17** Pyrex beaker



DYNAMIC VISCOSITY DETERMINATION

B088N

VISCOMETER BATH

STANDARDS: EN 12595 | ASTM D2170

This viscometer bath is used to determine both the Dynamic and Kinematic viscosity of liquid asphalts, keeping the capillary type viscometers at a uniform temperature.

Consisting of:

- Borosilicate glass container 15 liters capacity
- Additional tempered glass container
- Stainless steel base with insulating cork sheet
- Stainless steel control box with selector and digital temperature reading
- Stainless steel lid with five holes for capillaries

Temperature range: room to 150 °C

Allows to simultaneous temperate five capillaries.

Viscometers and thermometers **are not included**.

Power supply: 230V 1ph 50-60Hz 1200W

Dimensions: 350x350x520 mm

Weight: 15 kg approx.

MAIN FEATURES

- Extremely precision (± 0.02 °C stability).
- 4.3" LCD display.
- PID controller.
- PT 100A probe included.
- Overheating alarm system and security water level.
- Motor stirrer, heating element, cooling coil.



B088N

ACCESSORIES

B088-03N SILICONE OIL, type 50 cSt, for tests with B088N bath with temperature range: 100 °C up to 150 °C.

Can of 20 kg

B088-05N HOLDER, stainless steel made, for Cannon-Manning and Asphalt Institute viscometers

B088-06N HOLDER, stainless steel made, for Cannon-Fenske viscometers

B088-07N HOLDER, stainless steel made, for Zeitfuchs cross-arm viscometers

B088-08N HOLDER, stainless steel made, for Cannon BS reverse flow viscometers

B088-12 KINEMATIC VISCOSITY THERMOMETER, range 58.5 to 61.5 °C, type ASTM 47C

B088-13 KINEMATIC VISCOSITY THERMOMETER, range 133.5 to 136.5 °C, type ASTM 110C

B088-01N

VACUUM VISCOMETER BATH

STANDARDS: EN 12596 | ASTM D2171 | AASHTO T202 | IP 222

This Vacuum Viscometer Bath is specially designed for tests that require ultra – precise temperature and vacuum control, or processes that need to be followed visually. All wetted parts are made of stainless steel, providing resistance against all usual bath fluids. The bath can be operated from ambient +5 (with a cooling system) up to +230 °C (41...446 °F). The set point can be set in steps of 0.01 °C. The system overall accuracy is within ± 0.01 °C. After the temperature control is stable, the offset can even be adjusted with ± 0.005 °C. The Bath is already equipped with the digital vacuum controller, the vacuum manifold to offer 4 positions and all tubing to perform the test. This system further offers high precision and feedback regulation on the vacuum, within 0,5 mm Hg (or mBar) of its set point.

Power supply: 230V, 50-60Hz

Dimensions: 720 x 400 x 590 mm

Weight: 50 Kg approx.

TECHNICAL SPECIFICATIONS

- Temperature Range: Ambient to 230°C;
- Temperature Stability: ± 0.01 °C;
- Bath Volume: 40 litres;
- Pressure Range: 30 to 430 mBar (negative pressure);
- Pressure Accuracy: ± 0.5 mBar;
- Digital Vacuum Controller;
- 4 viscometer positions;
- Selectable readout via setup: mm Hg, mBar, PSI



B088-01N

SPARES

B088-16N Vacuum pressure regulator, for precise control during test. 230 V, 50-60 Hz

B088-17N Vacuum manifold, to obtain vacuum to the viscometers introduced into the bath

KINEMATIC VISCOSITY DETERMINATION

STANDARDS: EN 12595 | ASTM D2170 | AASHTO T201

CANNON-MANNING VACUUM VISCOMETERS

To determine the viscosity of bitumen at 60 °C.
Supplied complete with calibration certificate.

Model	Viscosity range			Model	Viscosity range		
B088-20	0.036	to	0.8	B088-26	36	to	800
B088-21	0.12	to	2.4	B088-27	120	to	2400
B088-22	0.36	to	8	B088-28	360	to	8000
B088-23	1.2	to	24	B088-29	1200	to	24000
B088-24	3.6	to	80	B088-30	3600	to	80000
B088-25	12	to	240				

Note: to measure the viscosity with the Cannon-Manning viscometers, the B088-01N bath, the B088-05N holder and asphalt institute vacuum viscometers are also needed.



ASPHALT INSTITUTE VACUUM VISCOMETERS

To determine the viscosity of bitumen at 60 °C.
Supplied complete with calibration certificate.

Model	Viscosity range		
B088-34	42	to	800
B088-35	180	to	3200
B088-36	600	to	12800
B088-37	2400	to	52000
B088-38	9600	to	1400000
B088-39	38000	to	5800000



CANNON-FENSKE OPAQUE VISCOMETERS, REVERSE-FLOW TYPE

To determine the kinematic viscosity of bitumen, distillation residues of opaque liquid asphalts, asphalt cements at 135 °C, and road oils at 60 °C. Supplied complete with calibration certificate.

Model	Approx. constant mm ² /s ²	Viscosity range mm ² /s ²		
B088-50	0.002	0.4	to	2
B088-51	0.004	0.8	to	4
B088-52	0.008	1.6	to	8
B088-53	0.015	3	to	15
B088-54	0.035	7	to	35
B088-55	0.1	20	to	100
B088-56	0.25	50	to	200
B088-57	0.5	100	to	500
B088-58	1.2	240	to	1200
B088-59	2.5	500	to	2500
B088-60	8	1600	to	8000
B088-61	20	4000	to	20000
B088-62	45	10000	to	40000
B088-63	100	20000	to	80000



Note: to measure the kinematic viscosity with the Cannon-Fenske viscometers, the B088N or the B088-01N baths and the B088-06N holder are also needed.

Note:

to measure the kinematic viscosity with the BS viscometers, the B088N or the B088-01N baths and the B088-08N holder are also needed.



ZEITFUCHS CROSS-ARM VISCOMETERS

To determine the kinematic viscosity of bitumen, distillation residues of liquid asphalts, asphalt cements at 135 °C, road oils.
Supplied complete with calibration certificate.

Model	Approx. constant mm ² /s ²	Viscosity range mm ² /s		
B088-70	0.003	0.6	to	3
B088-71	0.01	2	to	10
B088-72	0.03	6	to	30
B088-73	0.1	20	to	100
B088-74	0.3	60	to	300
B088-75	1	200	to	1000
B088-76	3	600	to	3000
B088-77	10	2000	to	10000
B088-78	30	6000	to	30000
B088-79	100	20000	to	100000



Note:

to measure the kinematic viscosity with the Zeitfuchs cross-arm viscometers, B088N or B088-01N and corresponding holders are also needed.

CANNON BS-IP-RF FLOW REVERSE VISCOMETERS

To determine the kinematic viscosity of bitumen, distillation residues of liquid asphalts, asphalt cements at 135 °C, road oils.
Supplied complete with calibration certificate.

Model	Approx. constant mm ² /s ²	Viscosity range mm ² /s		
B088-80	0.003	0.6	to	3
B088-81	0.01	2	to	10
B088-82	0.03	6	to	30
B088-83	0.1	20	to	100
B088-84	0.3	60	to	300
B088-85	1	200	to	1000
B088-86	3	600	to	3000
B088-87	10	2000	to	10000
B088-88	30	6000	to	30000
B088-89	100	20000	to	100000
B088-90	300	60000	to	300000

MEASURING PIPETTES, MOHR type, graduated

Model	Capacity	Sub-divisions
V142	1 ml	0.01 ml
V142-01	5 ml	0.1 ml
V142-02	10 ml	0.1 ml
V142-03	25 ml	0.1 ml
V142-04	50 ml	0.1 ml
V142-05	100 ml	0.2 ml

GRADUATED BURETTES, BENT

Soda glass with stopcock

Model	Capacity	Sub-divisions
V143	25 ml	0.1 ml
V143-01	50 ml	0.1 ml
V143-02	100 ml	0.2 ml

GRADUATED BURETTES, STRAIGHT

Soda glass with stopcock

Model	Capacity	Sub-divisions
V143-05	10 ml	0.02 ml
V143-06	25 ml	0.1 ml
V143-07	50 ml	0.1 ml
V143-08	100 ml	0.2 ml

V138**FILTER FUNNEL**, PYREX GLASS

Ø 90 mm for particle analysis tests to BS 1377

**V300-15****DISSICATORS SALTS**, SILICA GEL

Box of 1000 g

**V147****STIRRING ROD**, glass, Ø 8 mm x 250 mm long. Pack of 10**V147-01****MARKING PENCIL**, glass. Pack of 12**DESICCATORS BOROSILICATE GLASS**

Complete with perforated porcelain plate.

**A039****A035**

Without vacuum		With vacuum	
A035	Ø 200 mm	A039	Ø 200 mm
A036	Ø. 250 mm	A040	Ø 250 mm
A036-01	Ø 300 mm	A040-01	Ø 300 mm

LOT III

SLUMP CONE TEST KITS

STANDARDS: EN 12350-2 | EN 12350-8 | ASTM C143
BS 1881:102 | AASHTO T119 | NF P18-305

SLUMP CONE COMPLETE TEST KITS. Matest proposes different versions:

C180-KIT SLUMP CONE, COMPLETE SET, ideal for laboratory tests including:

- C180-01** Slump Cone, **stainless steel** made
- C180-02** Tamping rod, galvanized steel, Ø 16x600 mm
- C180-03** Slump Cone funnel, galvanized steel
- C180-06** Graduated slump scale **engraved in 0.5 cm** increments with sliding measuring rod
- C180-07** Base, galvanized steel, complete
- V184** Aluminium scoop, 500 cc capacity
- V178-01** Fine wire brush

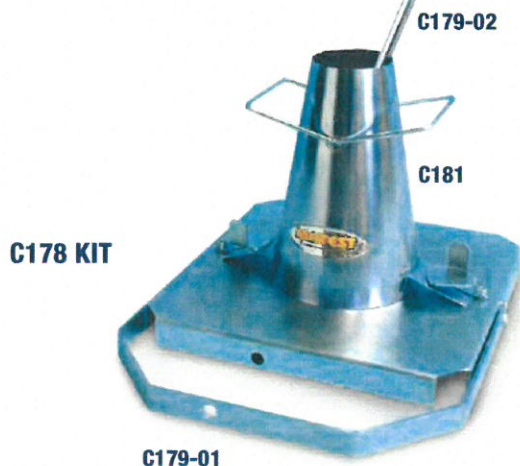
Weight: 10 kg approx.



C178-KIT PORTABLE SLUMP CONE TEST SET, including:

- C181** Slump Cone, **galvanized steel**
- C179-02** **Graduated** steel tamping rod, galvanized, Ø 16x600 mm
- C179-01** Base, manufactured from heavy duty galvanized steel, complete with clamps and measuring bridge which is also used as carrying handle. The slump is measured using the tamping rod having a graduated scale engraved in 1 cm increments. The components of the set are fitted together for easy carrying. Very practical, robust, ideal for site use.

Weight: 8 kg approx.



C182-KIT SLUMP CONE, COMPLETE SET, including:

- C181** Slump Cone, **galvanized steel**
- C180-02** Tamping rod, galvanized steel, Ø 16 x 600 mm
- C180-04** Base plate, galvanized steel
- V176-01** Stainless steel rule, 300 mm long
- V184** Aluminium scoop, 500 cc capacity
- V178-01** Fine wire brush

Weight: 5 kg approx.



C179-KIT PORTABLE SLUMP CONE TEST SET, including:

- C180-01** Slump Cone, **stainless steel** made
- C179-02** **Graduated** steel tamping rod, galvanized, Ø 16x600 mm
- C179-01** Base, galvanized steel, complete with clamps and measuring bridge, as described above.

Weight: 8 kg approx.

Note:

Each component of the kits can be ordered separately. The user can personalize the kit composition for the Slump Cone test.



Schmidt Rebound Hammers

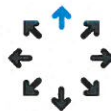
Original Schmidt OS8000

Concrete strength and uniformity testing using rebound hammer technology



Simplicity

Test on-site and share results up to 80% quicker compared to analog hammers. Eliminate operator errors thanks to automatic impact angle correction and series evaluation according to standards.



Productivity

Cloud synchronization of your measurements. Comprehensive mobile apps and web-based functionality enhances productivity and makes instantaneous reporting possible.



Reliability

All mechanical components are Original Schmidt components to ensure durability and standards compatibility.



	Voice read-out of each impact (only on iOS®)
	Logbook with geolocation, audio, image and text annotations
Workflow features	Series statistics
	Single series reporting: PDF, CSV Test-region reporting (multiple series): PDF, CSV, uniformity report, EN13791 characteristic strength report
Display	Any compatible Apple® iOS device (please see App Store for details)
	Any supported Android™ device (please see Google Play Store for details)
	Test region reporting
Measurements	Select units, form factor and correlation curves
	Create your own custom curves
	Create custom curves databases for your own mixes
	Options: EN12504-2, Manufacturer's recommendation, JGJ-T23
Verification features	User reminder when verification check on the anvil is required
	User guidance for verification procedure
Cloud features	Cloud synchronization
	Cloud-enabled Logbook
	Cloud-based report generation
Report Generation	Single, multiple series, test region (uniformity, EN13791)
Languages	English, German, Japanese, Chinese, Korean, Spanish, Portuguese, Italian, French, Russian

Sensor

Instrument Firmware	Automatic calculation of rebound value according to international standards
Display	Analog & backlit digital (100 x 100 pixels, graphic)
Impact Energy	2.207 Nm (N), 0.735 Nm (L)
Compressive Strength Range	10 to >100 N/mm ² (1'450 to >10'152 psi)
Memory	Instrument memory > 20,000 impacts
	Display memory - Memory of iOS or Android device
Connections	Low energy Bluetooth®, USB for charging and updates
	Impact angle independent
Measurements	Displays the series on-screen as you work
	Series validity checked automatically
	Review an entire series
	Delete impacts
Battery	Standard AAA, alkaline or rechargeable
Battery Lifetime	> 20,000 impacts between charges
Operating Temperature	0° to 50°C
Languages	English, German, Japanese, Chinese, Korean, Spanish, Portuguese, Italian, French, Russian



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V173-01

BUNSEN BURNER, universal, with air control.
IT CANNOT BE SOLD IN the european community.

As an alternative:

V173-01CE

BUNSEN BURNER, universal, with air control. Complete with gas-stop valve controlled by a flame sensor and maximum thermostat with reset button.

It can be sold in the european market, but not usable in closed spaces.

V173-02 Tripod Ø 100 x 150 mm

V173-05 Tripod Ø 120 x 220 mm

V173-06 Tripod Ø 150 x 230 mm

V173-03 Iron wire gauze, 150 mm square with ceramic centre

V173-04 Iron wire gauze, 200 mm square with ceramic centre

V174 CRUCIBLE TONGS

V175 VERNIER CALIPER, 0-150 mm x 0.02 mm

V175-01 VERNIER CALIPER, 0-205 mm x 0.02 mm

V175-02 DIGITAL VERNIER CALIPER, 0-200 mm x 0.01 mm
Readings in mm and inch.

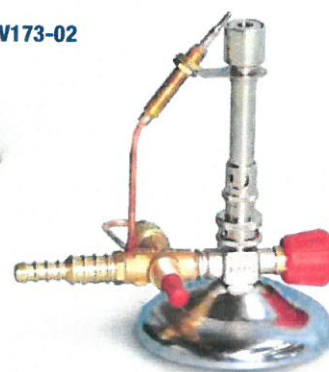
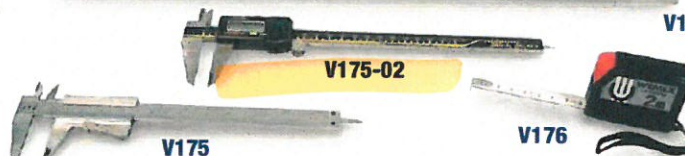
V175-03 DIGITAL VERNIER CALIPER, 0-153 mm x 0.01 mm

V175-04 DIGITAL VERNIER CALIPER, 0-300 mm x 0.01 mm

V176 STEEL FOLDING RULE, 2 metres long

V176-01 STEEL RULE, 300 mm long, 0.5 mm grad.

V176-02 STEEL RULE, 500 mm long, 0.5 mm grad.

**V173-01****V173-02****V173-01 CE****V174****V176-02****V175****V175-02****V176**

V177 WORKING SAFETY GLOVES

V177-01 NEOPRENE GLOVES

**V177****V177-01**

V178 SOFT BRUSH, for cleaning sieves etc.

V178-01 FINE WIRE BRUSH

V178-03 BOTTLE BRUSH Ø 50 mm

V179 BRISTLE, round, Ø 35 mm soft hair

V179-01 BRISTLE, flat 62 mm soft hair

V179-02 SIEVE BRUSH, double-ended, brass/nylon

V179-03 SIEVE BRUSH, double-ended, soft/hard nylon

V179-04 SIEVE BRUSH, fine brass

V179-05 SOFT HAIR BRUSH, Ø 3 mm - BS812

V179-06 BRISTLE, flat, 60 mm, nylon

**V179-02****V179-05****V179-03****V179****V179-06****V179-01****V178****V178-01****V178-03****V179-04**