

## DIGITRAC AUTO STABILITY PRESS



The DigiTrac stability press for the Marshall method allows the operator to initially set up the platen and then the load and flow values are digitally tracked until locked at peak load. Then the platen automatically reverses to the exact starting position for the next test. A 2"/min platen travel is assured by the 1/3 hp motor and oil-filled gear box. Quality constructed components translate load and flow output values. Operator error is eliminated. The machine cross head adjusts on strain rods anchored to a heavy-duty frame. The 6<sup>-1/4</sup>" diameter guides for rapid positioning of specimens. Also available is the **B9124A** panel mounted printer. This allows the operator to have a hard copy of load/flow data. Output connections are also provided for X-Y (**B9124B**) or flatbed recorders (**B9124C**).

MODELS	DESCRIPTION	STANDARDS
<b>B9123</b>	DIGITRAC AUTO STABILITY PRESS, 115V / 60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9124</b>	DIGITRAC AUTO STABILITY PRESS, 230V / 50 Hz	

ACCESSORIES	DESCRIPTION
<b>B9124A</b>	PANEL MOUNTED PRINTER
<b>B9124B</b>	X-Y RECORDER
<b>B9124C</b>	FLATBED RECORDER

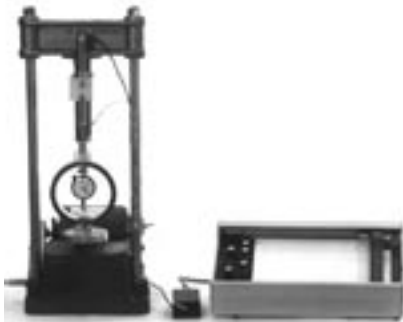
## MARSHALL AUTOMATIC DIGITAL TESTER



The **B9121A** features an auto-tare twin-channel digital display with maximum peak hold for stability and flow. The RS-232 port allows the operator to choose to download the test results to a PC or printer. Buffered analog output to an X/Yt chart recorder for graphical display. The unit is furnished with an S-type 10,000 lbf (50kN) load cell, 0.4" (10mm) linear strain transducer, and transducer bracket

MODELS	DESCRIPTION
<b>B9121A</b>	MARSHALL AUTOMATIC DIGITAL TESTER, 110V / 60 Hz

## MARSHALL TESTING MACHINE W/ RECORDER



This machine automatically tests and records Marshall stability and plastic flow data on one sheet. Operator error is eliminated since there are no manual readings involved. Stress is recorded by load cell and strain measurement is recorded by a LVDT sensor for superior accuracy. The tester is furnished with a 10,000 lb load ring for calibration. There are four load ranges that can be used, 1,000, 2,000, 5,000, and 10,000 lbs with internal calibration. Accuracy is within 1%.

MODELS	DESCRIPTION	STANDARDS
<b>B9129</b>	MARSHALL TESTING MACHINE W/ RECORDER, 115V / 60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9129F</b>	MARSHALL TESTING MACHINE W/ RECORDER, 220V / 50 Hz	

## AUTOMATIC MARSHALL TESTING MACHINE (4" & 6")



The **B9130** test press is specifically designed to perform Stability-Flow measurements required by the Pennsylvania Highway Department in the "Marshall Control" program. The test press is designed so that very little service is required. The test press is certified to be accurate to within 1% of load reading from 500 lbs to 10,000 lbs under the ASTM E-4 procedure. Testing machine has three load ranges 2,500 lbs, 5,000 lbs and 10,000 lbs and will test 4" and 6" dia. specimens.

MODELS	DESCRIPTION	STANDARDS
<b>B9130</b>	AUTOMATIC MARSHALL TESTING MACHINE (4" & 6")	ASTM D-1559 / AASHTO T-245

ACCESSORIES	DESCRIPTION
<b>B9114</b>	6" MARSHALL STABILITY BREAKING HEAD W/ GUIDES
<b>B9115</b>	4" MARSHALL STABILITY BREAKING HEAD W/ GUIDES
<b>B9116</b>	4" LOTTMAN BREAKING HEAD
<b>B9116L</b>	6" LOTTMAN BREAKING HEAD
<b>B9191</b>	WATER BATH, 110V / 60 Hz
<b>B9192</b>	WATER BATH, 220V / 50 Hz
<b>B9195</b>	WATER BATH W/ COOLING COIL, 110V / 60 Hz
<b>B9196</b>	WATER BATH W/ COOLING COIL, 220V / 50 Hz

## AUTOMATIC COMPACTOR, SINGLE UNIT

This single mold automatic compactor is used to prepare bituminous samples. Because it is mechanized, many of the errors incurred with hand compaction methods are eliminated. The compactor utilizes a constant surcharge weight that is applied to the hammer foot during compaction. The hammer foot is held squarely against the specimen at all times. The mold is held by a spring loaded clamp ring and can be easily removed. The compactor is available in both 110V/60Hz and 220V/50Hz models (please specify model needed). Compactor comes with counter, pedestal, and 1 mold.



MODELS	DESCRIPTION	STANDARDS
<b>B9131</b>	AUTOMATIC COMPACTOR, SINGLE UNIT, 110V / 60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9132</b>	AUTOMATIC COMPACTOR, SINGLE UNIT, 220V / 50 Hz	

ACCESSORIES	DESCRIPTION
<b>B9101</b>	4" MOLD
<b>B9141</b>	FLAT FACED HAMMER
<b>B9142</b>	COUNTER

## AUTOMATIC COMPACTOR, DUAL UNIT

This compactor has the same basic design as the **B9131** and **B9132** except that it provides duplicate specimens that are compacted simultaneously. This enables the operator to compare results. Temperature variation is eliminated, because of simultaneous compaction, which provides increased accuracy. The molds are rotated throughout the process to produce a modified kneading action. The apparatus automatically compacts the samples at a preset definite number of hammer blows, upon completion the unit will automatically shut off. Compactor is furnished with 2 molds, counter, and pedestal. The compactor is available in both 110V/60Hz and 220V/50Hz models (please specify model needed).



MODELS	DESCRIPTION	STANDARDS
<b>B9135</b>	AUTOMATIC COMPACTOR, DUAL UNIT, 110V / 60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9136</b>	AUTOMATIC COMPACTOR, DUAL UNIT, 220V / 50 Hz	

ACCESSORIES	DESCRIPTION
<b>B9139</b>	4" MOLD, ROTATING BASE
<b>B9142</b>	COUNTER
<b>B9143</b>	EXTRA HAMMER W/ TAPERED FOOT
<b>B9145</b>	FOOT, BEVELED
<b>B9166</b>	COMPACTION PEDESTAL

## AUTOMATIC COMPACTOR, TRIPLE UNIT

This compactor is similar to the **B9135** and **B9136** compactors except that it prepares three specimen samples. The compactor is available in both 110V/60Hz and 220V/50Hz models (please specify model needed). Compactor furnished with 3 molds, counter, and pedestal.



MODELS	DESCRIPTION	STANDARDS
<b>B9137</b>	AUTOMATIC COMPACTOR, TRIPLE UNIT, 110V / 60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9138</b>	AUTOMATIC COMPACTOR, TRIPLE UNIT, 220V / 50 Hz	

ACCESSORIES	DESCRIPTION
<b>B9139</b>	4" MOLD
<b>B9142</b>	COUNTER
<b>B9143</b>	EXTRA HAMMER W/ TAPERED FOOT
<b>B9145</b>	FOOT, BEVELED

## AUTOMATIC COMPACTOR, (4" & 6" SPECIMENS)

The **B9147** single mold mechanical compactor can prepare either 4" or 6" compacted asphalt specimens for Marshall testing. The compactor has a bevelled foot on the hammer mechanism and a mold that rotates throughout the compaction process producing a modified kneading action. A redesigned automatic counter can be preset for the number of blows required and will turn off the machine when that number has been reached. After the number of blows has been set, the operator can start the machine with a push-button and keep track of the number of blows on an LCD readout. There is a switch located inside the cover which can operate the compactor on either 115V/60Hz or 220V/50Hz. A cam action lever operates the integral mold holder to facilitate insertion and removal of the stability mold. The compactor is furnished with the automatic counter, 4" hammer assembly, 4" stability mold, and a pedestal. The **B9147R** is the same unit as the **B9147** except that it has a rotating base.



MODELS	DESCRIPTION	STANDARDS
<b>B9147</b>	AUTOMATIC COMPACTOR, 4" & 6", 115-220V / 50-60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9147R</b>	AUTOMATIC COMPACTOR, 4" & 6", ROTATING BASE	

ACCESSORIES	DESCRIPTION
<b>B9101</b>	4" MOLD FOR NON ROTARY BASE
<b>B9149</b>	6" HAMMER ASSEMBLY
<b>B9139</b>	4" STABILITY MOLD FOR ROTARY BASE
<b>B9145</b>	6" MOLD W/ COLLAR AND BASE

## AUTOMATIC COMPACTOR, SINGLE UNIT (4")

The **B9151** & **B9152** single unit automatic compactor is similar to the **B9131**. The compactor is used to prepare 4" specimens of bituminous samples. Since it is mechanized, many of the errors incurred with hand compaction methods are eliminated. The compactor utilizes a constant surcharge weight that is applied to the hammer foot during compaction. The hammer foot is held squarely against the specimen at all times. The mold is held by a spring loaded clamp ring and can be easily removed. Another feature is the counter which automatically stops the compactor after a predetermined number of strokes. The compactor is available in both 110V/60Hz and 220V/50Hz models (please specify model needed). Compactor is furnished with counter and pedestal.



MODELS	DESCRIPTION	STANDARDS
<b>B9151</b>	AUTOMATIC COMPACTOR, 4", 110V / 60 Hz	ASTM D-1559 / AASHTO T-245
<b>B9152</b>	AUTOMATIC COMPACTOR, 4", 220V / 50 Hz	

ACCESSORIES	DESCRIPTION
<b>B9101</b>	EXTRA 4" MOLD
<b>B9155</b>	HAMMER FOR 4" MOLDS
<b>B9161</b>	EXTRACTOR FOR 4" MOLDS
<b>B9162</b>	HYDRAULIC EXTRUDER FOR 4" MOLDS
<b>B9163</b>	HYDRAULIC EXTRUDER FOR 4" & 6" MOLDS
<b>B9165</b>	PEDESTAL W/ STEEL PLATE

## HAND COMPACTION SET



The **B9171** compaction pedestal features an adjustable guide that fits the handle of the hammer. The guide holds the axis of the compaction hammer perpendicular to the base of the mold assembly during compaction. The set includes the compaction pedestal with steel plate hammer, a 4" compaction mold, a compaction mold holder, a compaction hammer, a hammer support and rod and an adjustable guide.

MODELS	DESCRIPTION	STANDARDS
<b>B9171</b>	HAND COMPACTION SET	ASTM D-1559 / AASHTO T-245

ACCESSORIES	DESCRIPTION
<b>B9101</b>	4" MOLD FOR NON ROTARY BASE

## CONSTANT TEMPERATURE WATER BATH

These water baths are fully insulated and are constructed from stainless steel. They are furnished complete with stirring motor, thermometer, thermometer holder, 3-wire cord and grounding plug. However, the **B9195** and **B9196** are also furnished with a cooling coil. Temperature range is ambient to 212° F with a stability of ±5° F. The inside dimensions are 14" X 16" X 8-1/2" deep. The outside dimensions are 18" x 16" x 15" high.



MODELS	DESCRIPTION	POWER
<b>B9191</b>	CONSTANT TEMPERATURE WATER BATH	110V / 60 Hz
<b>B9192</b>	CONSTANT TEMPERATURE WATER BATH	220V / 50 Hz
<b>B9195</b>	CONSTANT TEMPERATURE WATER BATH W/ COOLING COIL	110V / 60 Hz
<b>B9196</b>	CONSTANT TEMPERATURE WATER BATH W/ COOLING COIL	220V / 50 Hz

## ASPHALT PERMEAMETER



The Asphalt Permeameter is designed to perform the Florida DOT test procedure (FM 5-565) to measure the permeability of compacted asphalt paving mixtures. The specimen is placed inside a metal cylinder and held in place by expanding discs. The cylinder has a rubber inner membrane that is pressurized to push against the outer edge of the sample, filling the voids and eliminating flow down the side of the core. The sample is then saturated from the bottom. 500 cc of water from a manometer is then allowed to flow through the sample while being timed with a stopwatch readable to 0.1 second or better. A sink drain or other means to collect the water flow through the sample is required. The Permeameter also features a compact design which is easily transported to job sites. A built-in vacuum/air hand pump is used for applying membrane pressure while a gauge indicates the pressure being generated. The unit also includes a 500 cc monometer with 15 ft. of 1/4" tubing and saddle valve for hook-up to existing copper water line. DIM 8" x 11" x 49" w/ manometer, 14 lbs.

MODELS	DESCRIPTION	STANDARDS
<b>B9993</b>	ASPHALT PERMEAMETER, 4"	PS-129-01
<b>B9995</b>	ASPHALT PERMEAMETER, 6"	

ACCESSORIES	DESCRIPTION
<b>B9996</b>	REPLACEMENT MEMBRANES, 6/PK

## CALIFORNIA BEARING RATIO (CBR) FOR LAB

For determining the California Bearing Ratio (CBR) of soils and to evaluate the relative quantity of subgrade and subbase soils and some base course materials. Soil samples are mixed with varying quantities of water, compacted in a mold by a tamper, weighed and the dry compacted density determined. A perforated plate with adjustable stem and surcharge weights are placed on the specimen and the mold and weights soaked in water. The initial height and the height after given periods of soaking are determined by a micrometer dial mounted on a tripod and the sample swell reported as the percentage of the initial height. The sample is penetrated by a piston at a constant rate and the load required for penetration to different depths is recorded.

### MANUAL CBR LOADING MACHINE

The **S4242** determines bearing ratio of soil when compacted and tested in the lab. It compares the penetration load of the soil to that of a standard material. The Manual CBR Loading Machine utilizes a three speed mechanical jack for test speeds and for rapid travel. The machine meets ASTM D-1883 and AASHTO T-193 when the operator accurately cranks to the required test speed of 0.05"/min. The loading machine is furnished with a 10,000 lbf calibrated load ring with dial indicator. If the soils vary widely in strength, it is advisable to order extra lower capacity load rings such as the **G3832** (2,000 lb) or a **G3836** (6,000 lb). The **S4111** CBR cylinder mold is 6" ID x 7" high. The perforated base is 8" x 8" x 3/8" plated steel and is fitted with threaded rods and thumb nuts.

### MOTORIZED LOADING MACHINE

The **S4251** & **S4252** Motorized Loading Machine is very similar in design and application to the **S4242** except that it is motorized with preset speed selections. The motor drives the machine at a constant rate of 0.05"/min. The **S4252** is 220V/50Hz version.

### MASTER-LOADER MULTI-USE COMPRESSION TESTER

The **S4254** Master Loader handles a variety of tests with one load frame (Marshall, CBR, Unconfined, Unconsolidated undrained triaxial). Bench mounted unit features pre-set speed selections and accessories. Variable speed setting allows stepless adjustments from 0.002" to 2.000" per minute.

MODELS	DESCRIPTION	STANDARDS
<b>S4242</b>	CBR LOADING MACHINE, MANUAL	ASTM D-1883, D-4429 / AASHTO T-193
<b>S4251</b>	CBR LOADING MACHINE, MOTORIZED, 110V / 60 Hz	
<b>S4252</b>	CBR LOADING MACHINE, MOTORIZED, 220V / 50 Hz	
<b>S4254</b>	MASTER LOADER MULTI USE COMPRESSION TESTER, 120V / 60 Hz	ASTM D-1633, D-1883, D-2166, D-1559, / AASHTO T-193, T-208, T-245, / BS 1377

ACCESSORIES	DESCRIPTION
<b>C5041</b>	CURING TANK
<b>G3103</b>	MICROMETER DIAL GAUGE, 1" TRAVEL IN .001" INCREMENTS
<b>G4421</b>	SOLUTION BALANCE, 20 KG
<b>G6091</b>	OVEN, 28" X 24" X 20" CHAMBER
<b>L1118</b>	MIXING BOWL, 13-1/4" DIA.
<b>L1642</b>	BOX, ALUMINUM, 2" DIA, 1 DOZ
<b>L3652</b>	STRAIGHT EDGE, PLATED STEEL, 12"
<b>S4111</b>	CBR, MOLD, W/ COLLAR & BASE
<b>S4112</b>	LBR TEST MOLD, 6" ID X 6" H
<b>S4121</b>	SPACER DISC, 2.416" H
<b>S4122</b>	SPACER DISC, 1" H (VA SPECS)
<b>S4135</b>	FILTER PAPER FOR MOLDS, 100 / PKG
<b>S4141</b>	SWELL PLATE, W/ STEM & NUT
<b>S4151</b>	STEEL WEIGHT, 5 LB ANNULAR
<b>S4152</b>	STEEL WEIGHT, 5 LB SPLIT
<b>S4155</b>	SURCHARGE WEIGHT, STEEL SLOTTED
<b>S4161</b>	DIAL HOLDER TRIPOD, LESS DIAL
<b>S4162</b>	TRIPOD, BRASS C.O.E. DESIGN
<b>S4182</b>	PISTON, STATIC LOAD, W/ SCALE



S4254