

SPECIFIC GRAVITY BOTTLE

The **B5501** (Hubbard) featuring a straight side is for determining the specific gravity of road oils, tar, asphalt and cement. The solid stopper has a hole approximately 1.6 mm in dia. through the center to allow air to escape. The **B5511** (Hubbard-Carmick) features a tapered side utilized for determining the specific gravity of viscous and semisolid bitumen.



B5501



B5511

| MODELS | DESCRIPTION | STANDARDS |
|--------------|--|--|
| B5501 | SPECIFIC GRAVITY BOTTLE, STRAIGHT SIDE | ASTM D-70, D-115, D-234 / AASHTO T-43, T-228 |
| B5511 | SPECIFIC GRAVITY BOTTLE, TAPERED SIDE | |

ORBITAL SHAKERS

The **B5518** Digital Big Bill® Orbital Shaker is the new alternative to the Rice Test equipment. The shaker is compact and well designed to provide a uniform balanced shaking motion. The speed controller provides accurate regulation of the shaker speed from 40 to 400 rpm and is displayed on a large LED readout. Also featured, is a built-in timer which can be set for continuous operation or for timed shaking up to 60 minutes. The exterior is constructed from molded polyethylene that will not chip, rust or corrode. The drive mechanism produces 3/4 inch diameter circular motion and is counter balanced to ensure smooth, vibration free operation at any speed. Power is delivered by a 1/50 HP motor and runs off of 120V-50/60Hz. The shaker dimensions are 11" x 13-1/2" x 7". The combination platform allows you to design your own platform to meet specific shaking requirements. The **B5522** dedicated platform rotates on nine sealed bearings and is 13" x 11" and is furnished standard with clamps for four 2 liter Erlenmeyer flasks. The combination platform is 18" x 18". The clamps (**B5524**) for 4,000 ml flasks are used in conjunction with the combination platform to securely hold glassware in place while shaking. The clamps have four prongs and are constructed from stainless steel and also includes a retaining spring for extra grip.



B5518



B5520 - B5521

| MODELS | DESCRIPTION |
|--------------|---|
| B5518 | DIGITAL BIG BILL® ORBITAL SHAKER |
| B5520 | BENCH TOP ORBIT SHAKER, 120V / 50-60 Hz |
| B5521 | BENCH TOP ORBIT SHAKER, 240V / 50-60 Hz |

| ACCESSORIES | DESCRIPTION |
|---------------|--|
| B5522 | DEDICATED PLATFORM |
| B5523 | COMBINATION PLATFORM |
| B5524 | 4000 ML ERLLENMEYER FLASK CLAMP FOR B5523 |
| B5518A | ACCESSORY CLAMP, 2000 ML FOR B5518 |

VACUUM PYCNOMETER, RICE TEST



This large capacity vacuum pycnometer is used to determine the theoretical maximum specific gravity of bituminous paving mixtures. The pycnometer has a sample capacity of 13 lbs. (6 kgs) with maximum aggregate size of 2" (50 mm). The unit consists of a transparent top for visual inspection, a vacuum gauge with quick disconnect fitting, a water inlet valve, hoses for the water and vacuum valves, and an aspirator pump. The unit has an approximate volume of 10 liters. The maximum clearance above plate is 7-3/4". The dimensions are 9-7/16" I.D. x 12-1/8".

| MODELS | DESCRIPTION | STANDARDS |
|--------------|-------------------------------|-----------------------------------|
| B5541 | VACUUM PYCNOMETER (RICE TEST) | ASTM D-2041 / AASHTO T-209, T-283 |

| ACCESSORIES | DESCRIPTION |
|--------------|--|
| G8201 | VACUUM PUMP, 2 STAGE, 110V / 60 Hz |
| G8202 | VACUUM PUMP, 2 STAGE, 220V / 50 Hz |
| G8270 | VACUUM PUMP, OILLESS 2 STAGE, 110V / 60 Hz |

VACUUM PYCNOMETER, 2,000 GRAM

This vacuum pycnometer is used to determine the theoretical maximum specific gravity of bituminous paving mixtures by Pennsylvania test method # 740, a modification of AASHTO T-209. The pycnometer has a sample capacity of 4.4 lbs (2 kgs) with maximum aggregate size of 3/4" (19.1 mm). The unit consists of a transparent top for visual inspection, a vacuum gauge with quick disconnect fitting, a water inlet valve, hoses for the water and vacuum valves, and an aspirator pump. The unit has an aluminum volumetric canister that measures 7^{-1/2}" I.D. x 6" deep.



| MODELS | DESCRIPTION | STANDARDS |
|--------------|---------------------------|--|
| B5551 | VACUUM PYCNOMETER, 2000 G | ASTM D-2041 / AASHTO T-209, T-283 / PA 740 |

| ACCESSORIES | DESCRIPTION |
|---------------|--|
| B5551A | O-RING FOR PLASTIC LID |
| B5551B | IN-LINE VACUUM GAUGE, 0-30 HG, 2" DIA |
| G8201 | VACUUM PUMP, 2 STAGE, 110V / 60 Hz |
| G8202 | VACUUM PUMP, 2 STAGE, 220V / 50 Hz |
| G8270 | VACUUM PUMP, OILLESS 2 STAGE, 110V / 60 Hz |
| G8274 | VACUUM PUMP 1/3 HP, 2 STAGE, 110V / 60 Hz |

VIBRATING TABLES

The **B5552** vibrating table is used in conjunction with the with the **B5541** 6000 gram Vacuum Pycnometer. The heavy duty construction keeps sample material loose for more reliable test results. The tables feature a strong vibrators and sturdy bases with integral on/off switch. Exclusive quick release cam/lock fasteners allow quick placement and removal of canister. The open-end model has a sliding scale and is graduated above and below zero to 130 x 1 mm. The **B5542** & **B5543** vibratory tables are used with the **B5551** 2000 gram Vacuum Pycnometer. The pycnometer canister is held to the table via clamps. The table vibrates 3,000 times per minute and is available in 110V/60Hz. The **B5554** Vibro-Deairator is designed for consistent shaking of Rice test vacuum pycnometers while freeing the lab technician for other work. It is also a useful deaeration device for specific gravity tests of fine aggregates (ASTM C-128) and soils (ASTM D-854), for sample preconditioning per ASTM D-4867 and AASHTO T-283. Case has built-in 0 to 99 min., 59 sec. digital timer with 0.25 sec. accuracy, vibration speed control, and a 3-position switch for manual or timed operation—all front panel mounted for ease of use. Speed control allows setting of agitation to avoid stripping of asphalt. The **B5554A** Adapter Set is used with Filter Flasks, Volumetric Flasks, LeChatelier Flask, mason jar pycnometers. Special "speed knobs" tighten easily to secure the pycnometer. After a few loosening turns, they tilt and slide for quick removal. The unit is fully grounded and fused. The aluminum case has rubber feet; no mounting is required.

**B5542 & B5543****B5552****B5554**

| MODELS | DESCRIPTION |
|--------------|---|
| B5542 | VIBRATING TABLE, 3000 VPM, FOR USE WITH B5541 , 115V / 60 Hz |
| B5543 | VIBRATING TABLE, 2400 VPM, FOR USE WITH B5541 , 230V / 50 Hz |
| B5552 | VIBRATING TABLE, FOR USE WITH B5551 , 110V / 60 Hz |
| B5554 | VIBRO DEAIRATOR |

| ACCESSORIES | DESCRIPTION |
|---------------|--|
| B5552A | FLASK ATTACHMENT, FOR USE WITH B5552 |
| B5554A | ADAPTER SET FOR 2LT / 4LT FLASK, FOR USE WITH B5554 |

DIGITAL VACUUM MANOMETER

Designed as a safe and environment friendly unit for lab tests. The unit is a portable hand held device (battery operated) that can be moved around the lab with ease or permanently mounted to a bench or wall using the 110 Vac power supply provided. It features a 4-1/2 digit display to one decimal place and a 1/4" barb fitting on the top for making quick connections. When the unit is battery operated it features an automatic shutoff after 20 minutes to save power. The **B5548C** optional NIST traceable certificate is also available. The **B5550E** Digital Vacuum Manometer offers a quality unit for measuring low differential pressure at an affordable price. Portable design allows for use in the lab and in the field. Differential and vacuum pressure readings can be displayed in 11 units of measure and features a max-min-avg, hold, relative, and auto power off functions. Furnished with a hardshell case.



B5548



B5550E

| MODELS | DESCRIPTION |
|--------|-----------------------------------|
| B5548 | DIGITAL VACUUM MANOMETER |
| B5550E | DIGITAL VACUUM MANOMETER, ECONOMY |

| ACCESSORIES | DESCRIPTION |
|-------------|-----------------------------|
| B5548C | NIST CERTIFICATE, FOR B5548 |

RESIDUAL-PRESSURE MANOMETER



This manometer incorporates a heavy-walled glass U-tube column and a separate base tube with stopcocks. It also features a sliding scale graduated above and below zero to 130 x 1 mm. To use the manometer, the left hose connection is connected to the system to be measured, and the right hose connection is connected to the vacuum pump. The manometer is mounted on a wooden stand.

| MODELS | DESCRIPTION | STANDARDS |
|--------|-----------------------------|-------------|
| B5549 | RESIDUAL-PRESSURE MANOMETER | ASTM D-2041 |

CLOSED-END RESIDUAL PRESSURE MANOMETER



B5550

The **B5550** bench model absolute pressure gauge is the standard laboratory manometer which is used with ASTM D-2041. The unit is mounted on a round metal base with opposing vacuum connections. This allows the manometer to be connected between the pump and vacuum chamber. The manometer has a range of 0 to 150 mm Hg. The scale reads 75 to 0 to 75 mm Hg in 1mm divisions. The **G8279A** Bleed Valve goes in-line in your vacuum system. Easily installs and allows you to precisely control the amount of vacuum applied during a test.



G8279A

| MODELS | DESCRIPTION | STANDARDS |
|--------|--|-------------|
| B5550 | CLOSED-END RESIDUAL PRESSURE MANOMETER | ASTM D-2041 |

| ACCESSORIES | DESCRIPTION |
|-------------|--------------------------|
| B5550A | MANOMETER GUARD |
| B5550B | EXTRA U-TUBE W/ SCALE |
| G8279 | BLEED VALVE |
| G8279A | BLEED VALVE W/ T FITTING |

HUMIDIFIER

The **G6801** & **G6802** Humidifiers are capable of producing up to two pounds of water vapor (.09 kg) per hour. These units have a directional dome can be positioned in any direction enabling the discharged moisture to travel only a few feet while completely evaporating into the atmosphere. The rotating assembly produces centrifugal force whereby fine moisture particles are created. These units are quiet, dependable and requires very little maintenance. The **G6821** & **G6822** are very similar to the aforementioned except they are capable of producing up to five pounds (2.3 kg) of water vapor per hour.

**G6801 & G6802****G6821 & G6822**

| MODELS | DESCRIPTION | OUTPUT | POWER |
|--------------|-------------|-------------|--------------|
| G6801 | HUMIDIFIER | 2 LB / HOUR | 110V / 60 Hz |
| G6802 | | | 220V / 50 Hz |
| G6821 | | 5 LB / HOUR | 110V / 60 Hz |
| G6822 | | | 220V / 50 Hz |

| ACCESSORIES | DESCRIPTION |
|--------------|-------------|
| G6841 | CONTROLLER |

MULTI-PURPOSE WATER BATH

These general purpose water baths feature a microprocessor control for simple, accurate and repeatable operation. The digital display reads the setpoint and water temperature at the same time. An audible and visual warning is provided when the temperature deviates 5° C above the setpoint. The temperature range is from ambient to +90° C. The tank is constructed from polished stainless steel and the chamber walls are insulated to improve temperature stability and energy efficiency. The seamless interior tank and the integrated pump both improve water circulation and maintains temperature uniformity.



| MODELS | DESCRIPTION | TANK DIM. | CAPACITY | POWER |
|---------------|--------------------------|--------------------|----------|------------------|
| G6881 | MULTI-PURPOSE WATER BATH | 18" X 12" X 7-1/2" | 7 GAL | 120V / 60 Hz |
| G6882 | | | | 120V / 50 Hz |
| G6883 | | 20" X 18" X 9-1/2" | 14.8 GAL | 120V / 60 Hz |
| G6883A | | | | 208-240V / 50 Hz |
| G6885 | | 36" X 18" X 9-1/2" | 26.6 GAL | 208-240V / 60 Hz |
| G6886 | | | | 208-240V / 50 Hz |

| ACCESSORIES | DESCRIPTION |
|--------------|--|
| G6884 | REMOVABLE GABLE COVER FOR G6881 & G6882 |
| G6887 | REMOVABLE GABLE COVER FOR G6883 & G6883A |
| G6888 | REMOVABLE GABLE COVER FOR G6885 & G6886 |

POLYETHYLENE WATER TANKS

These polyethylene water tanks, pictured here with the specific gravity bench are molded 1/4" thick seamless and translucent for water level visibility. They are also equipped with a drain faucet and overflow outlet. The maximum operating temperature is 140° F (60° C). The **G6891** has a capacity of 30 gal and is suitable for most tests. However, the **G6892** has a capacity of 45 gal which is more suitable for performing ASTM D-2041, AASHTO T-209 and similar tests.



| MODELS | DESCRIPTION | CAPACITY | STANDARDS |
|--------------|-------------------------|----------|-----------------------------|
| G6891 | POLYETHYLENE WATER TANK | 30 GAL | ASTM D-2041 AASHTO T-209 |
| G6892 | | 45 GAL | |

| ACCESSORIES | DESCRIPTION |
|--------------|------------------------|
| G6890 | SPECIFIC GRAVITY BENCH |