



H-1750, H-1750SS, H-1751



Vacuum Pycnometer

Introduction

This Vacuum Pycnometer is used in Rice Testing to determine the maximum specific gravity of bituminous paving mixtures with maximum aggregate size up to 19.1mm (3/4 inch). Designed for operator safety, set includes aluminum volumetric canister, volumetric lid, flat Plexiglas vacuum lid with o-ring, volumeter, release valve and fittings, metal water vacuum aspirator with 3/8" IPT, 6' hose. Unit achieves vacuum using an aspirator or optional vacuum pump. Order H-1756 vibrating table or H-1782 de-airing table and H-1752, H-1754 or H-1754D manometer separately. Replacement parts are available separately. Meets ASTM D2041 & AASHTO T209, T283.

Attach Aspirator to a water supply that will maintain a constant, high flow rate. Attach one end of vacuum hose to Aspirator. Attach the other end of vacuum hose to hose nib on the vacuum lid.

Note: After extended use the Aspirator may lose performance because of solids build up from water.

Operating Instructions

Place vacuum lid on volumetric-check seating of rubber o-ring.

Close release valve.

Turn on water to run through Aspirator-observe direction of vacuum with a vacuum gauge. If the unit seals, the needle on the gage will change reading. Tap gage lightly as the vacuum is drawn. Vacuum is to be minimum of 28 inches, and compliance with the standards requires an absolute pressure manometer.

If a seal is not obtained recheck above procedure and then place light pressure on the vacuum lid with your hands.

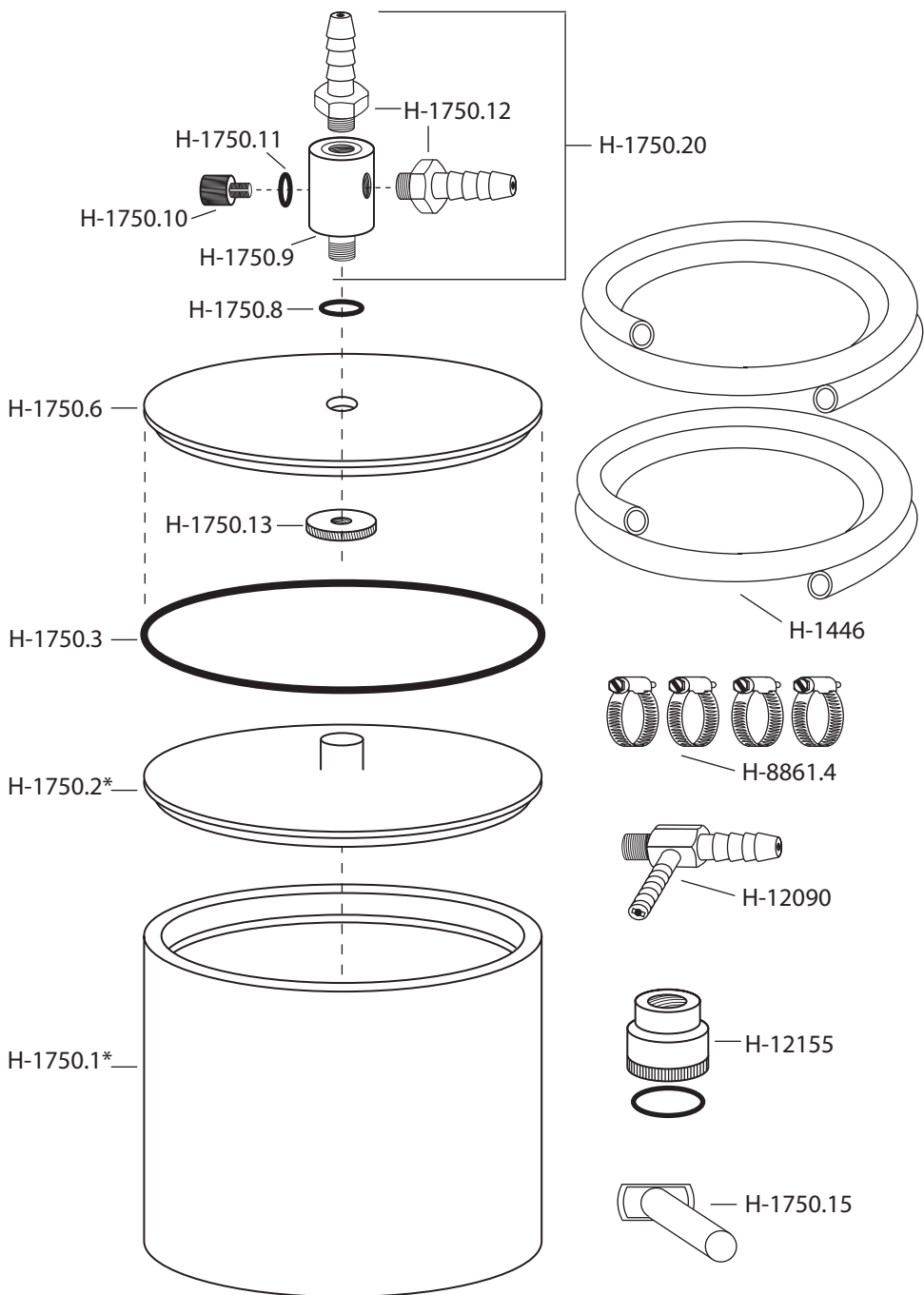
Clean Up

To remove vacuum lid-open release valve to allow air and enter the volumeter. Do not try to remove the lid or turn off water while vacuum is drawn on volumeter.

Remove o-ring from vacuum lid. Clean o-ring and wipe its contact surface on vacuum lid and volumeter.

Store in safe place until needed again.

H-1750, H-1750SS & H-1751 Parts List



*For Stainless Steel Model, H-1750SS, substitute H-1750SS.1 and H-1750SS.2

* For H-1751, 1500g capacity model, substitute H-1751.1

Warranty

Humboldt Mfg. Co. warrants its products to be free from defects in material or workmanship. The exclusive remedy for this warranty is Humboldt Mfg. Co., factory replacement of any part or parts of such product, for the warranty of this product please refer to Humboldt Mfg. Co. catalog on Terms and Conditions of Sale. The purchaser is responsible for the transportation charges. Humboldt Mfg. Co. shall not be responsible under this warranty if the goods have been improperly maintained, installed, operated or the goods have been altered or modified so as to adversely affect the operation, use performance or durability or so as to change their intended use. The Humboldt Mfg. Co. liability under the warranty contained in this clause is limited to the repair or replacement of defective goods and making good, defective workmanship.

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Testing Equipment for

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Specific Gravity (Rice Test) Testing Equipment

Rice Test Pycnometers

Vacuum Pycnometer Set— H-1750

Used in Rice testing to determine the maximum specific gravity of bituminous paving mixtures with maximum aggregate size up to 19.1mm (3/4in.). 2000g capacity, 7-1/2" ID x 6" depth. Set includes aluminum volumetric canister; volumetric lid; flat, Plexiglas vacuum lid with o-ring; volumeter; release valve and fittings, and a metal water vacuum aspirator with 3/8" IPT and 6' hose. Unit achieves vacuum using the aspirator or optional vacuum pump. Meets ASTM D2041; AASHTO T209, T283.

Small Vacuum Pycnometer Set— H-1751

Same as H-1750 except 1500g capacity, 7-1/2" ID x 4" depth.

H-1750 and H-1751 Pycnometers are also available in stainless steel.

Large-Capacity Vacuum Pycnometer Set— H-1820

Large-capacity unit, 10L (2.64 gal.), 6000g (13.2 lbs.) sample weight, with maximum aggregate size of 50mm (2in.). Set features domed transparent cover for easy observation of sample testing, perforated plastic shelf, which some States require; water inlet valve and 1/4" ID hose, vacuum hose and aspirator with 3/8" NPT fitting. Flange OD is 10-3/4" (273mm); maximum clearance above plate is 7-3/4" (197mm). Dimensions: 9-7/16" ID x 12-1/8" (240 ID x 311mm). Meets AASHTO T209, T283.

Digital Manometer— H-1754D

Digital Manometer, Certified— H-1754DCA

A precise measurement device designed to replace mercury-filled manometers used in Rice test applications. This portable, hand-held device can be easily moved around the laboratory. Holes are provided for bench or wall mounting and a 3/8" barb fitting is used for quick connections. The instrument features a digital display range of 0 to 1000mm Hg (absolute) at a resolution of 0.1mm Hg. The device has a rated accuracy of +/-0.5% full scale and is powered by one 9V battery.

Slow Release Valve for Vacuum Pycnometers— H-1749

For use with H-1750, H-1751 and H-1820 for greater accuracy and shorter dry back time. Brass valve maintains 30mm vacuum pressure on sample. Meets ASTM D2041, AASHTO T283.



Typical Rice Test Setup



H-1750



H-1820



H-1754D



H-1749

Specific Gravity (Rice Test) Equipment

Orbital De-Airing Table for H-1750 Pycnometer— H-1782

The Humboldt Orbital De-Airing Table is designed for use in maximum specific gravity and density determinations of bituminous paving mixtures. Through the use of an orbital shaking action, material densification that entraps air is virtually eliminated, resulting in more accurate and uniform test results. The H-1782 incorporates a variable speed controller with a range of 10 to 250 rpm and an LED programmable timer with an accuracy of better than $\pm 0.1\%$. The orbital diameter of the 11" x 12" (279 x 305mm) table is set at 1-1/2" (38.1mm). Taking up little counter space, the base is 10" x 10" (154 x 154mm) and has an overall height of 16" (406mm). Quick release clamps are used to permit quick mounting and removal of the pycnometer.

Shipping wt. 28lbs (13kg)

Note: For 220V operation, order H-1042 Transformer.



H-1756A

Vibrating Table for H-1750 Pycnometer— H-1756A

Vibrating Table for Pycnometer, 220V 50Hz— H-1756A.5F

Heavy-duty vibrating tables keep sample material loose for more reliable test results. Strong, rugged-duty vibrators and sturdy bases having integral, heavy-duty on/off switches. Exclusive quick-release cam/lock fasteners allow quick placement and removal of canister.

Vibrating Table for H-1820— H-1826A

Vibrating Table for H-1820, 220V 50Hz— H-1826.5F

Heavy-duty vibrating table keeps sample material loose for more reliable test results. Strong, rugged-duty vibrator and sturdy base have integral, heavy-duty on/off switches. Exclusive quick-release cam/lock fasteners allow quick placement and removal of canister. Shipping wt. 12lbs (5.4kg)



H-1782



H-1753 shown in
use with H-1782



H-1826A

Flask Attachment— H-1753

For use with H-1756A and H-1782, flask not included.

Indicating Drierite Air Drying Unit— H-1759

Easily installs in-line between vacuum pump and rice test equipment. This refillable unit measures 2-5/8" by 11-3/8" (667 x 289mm) with hose barbs at both ends, which can accept 1/4" to 3/8" flexible tubing. Supplied complete with 650g of indicating desiccant.

Drierite Desiccant— H-1757

Meets ASTM D2041.

Indicating Drierite Desiccant— H-1758

Blue desiccant turns red to show absorption and may be reused.



H-1759



H-1757



H-1758