Grafco®
A Graham-Field Brand

3527, URINOMETER AND 3530, JUNIOR URINOMETER: INSTRUCTIONS FOR USE

PLEASE SAVE THESE INSTRUCTIONS FOR FUTURE USE

SAFETY GUIDELINES - PLEASE READ BEFORE USE

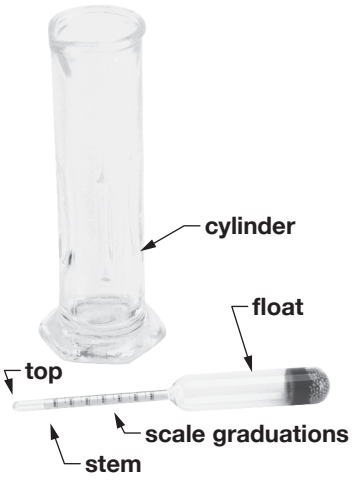
⚠ WARNING: Important! Read and understand these instructions before using the urinometer. If you do not understand any part of these instructions, contact your medical supply distributor for direction in the use of this product.

⚠ WARNING: GF Health Products, Inc. assumes no responsibility for any damage or injury caused by improper installation or use of this product.

The urinometer is intended to measure the specific gravity of urine samples. The specific gravity of normal urine varies with the amount of solids in solution, and is also affected by fluid intake versus fluid loss through skin, lungs, and bowels.

The measurement of urine-specific gravity is important in determining the ability of the kidneys to concentrate or dilute the urine. The inability of the kidneys to perform this function could be indicative of renal structural damage, metabolic disorder, or endocrine disturbance.

An accurate urinometer can provide rapid, reliable, and convenient determinations of specific gravity. Greater accuracy can be obtained with a pycnometer or with weighing bottles; however, these are rarely required in routine urinalysis, and are far less convenient to use.



Urinometer

URINOMETER PRINCIPLE

The specific gravity of a liquid is defined as the ratio of the density of the substance being measured to the density of water at a specified temperature.

A urinometer is a hydrometer with scale graduations corresponding to the range of specific gravity for urine. A hydrometer is essentially a weighted float with a graduated stem of small diameter that sinks in the test liquid to a depth proportional to the specific gravity of the liquid.

SPECIMEN COLLECTION AND PREPARATION

Collect the urine specimen in a clean container and test it at the urinometer calibration temperature. **The urinometer calibration temperature is 60°F (15.6°C).** For every 5.4°F (3°C) that the urine temperature is above calibration temperature, add .001 to the hydrometer reading. For every 5.4°F (3°C) that the urine temperature is below calibration temperature, subtract 0.001 from the hydrometer reading.

PROCEDURE

To determine specific gravity, proceed as follows:

1. Clean urinometer as described in the following CLEANING section.

2. Fill the urinometer cylinder to about one inch from the top with urine specimen; measure and record specimen temperature.
3. Hold the urinometer float by the top and slowly insert it into the cylinder. Avoid wetting the float stem above the liquid line; excessive wetting of the stem will cause the float to sink below the true test reading.
4. Impart a slight spin to the float as it is released.
5. Read the float scale at the lowest portion of the urine's meniscus. Be sure to keep the float away from sides of cylinder while reading.

Note: If it is necessary to read the top of the meniscus, as in the case of an opaque specimen, add 0.002 to the specific gravity reading to correct for viewing error.

5. Apply temperature correction as necessary. For example:
   a. The urinometer shows a Sp.G. of 1.015 and the measured urine specimen temperature is 82°F. Again, for every 5.4°F (3°C) that the urine temperature is above calibration temperature, add .001 to the hydrometer reading.
   b. Subtract: 82°F - 60°F = 22
   c. Divide: 22/5.4 = 4.07 = 4.00 (rounded)
   d. Add: 1.015 + .004 = 1.019
   e. Corrected measurement: 1.019

CLEANING AND STORAGE

1. Sterilize both float and cylinder thoroughly after each use.
2. Store in a clean, dust-free environment.