Essential Oil Determination Apparatus

Please read carefully before use, and follows all operating and safety instructions!

General Glassco Essential Oil Determination Apparatuses are made from the best Borosilicate 3.3 glass, a glass known to be robust when used in laboratory tests. The apparatus is used for the extraction of volatile oils. It consists of a boiling flask, a condenser & a dean stark. The dean stark is different for oils heavier than water and for oils lighter than water. the dean stark has graduation for approximate measurement of extracted oils, & stopcock for easy delivery. The apparatus label indicates the nominal volume & the joint sizes & the manufacturer's logo. The apparatuses are of various sizes, containing boiling flasks from 500 to 2,000 mL of liquid.

Contents of this instruction manual

Safety Instructions

This instrument may be involved with hazardous materials. This Operating Manual does not purpose to address all of the safety problems associated with its use. It is the responsibility of whoever uses this instrument to consult and establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

1. Every user must read this Operating Manual before using the instrument.
2. Follow the general instructions for hazard prevention and safety regulations. e. g. wears
3. Ensure that Glassware is suitable for the intended purpose and that it can be used without any problem.
4. Use glassware that is without defects and has smooth edges. Defective glassware causes risks like cuts, burns, infection, etc.
5. Observe the reagent manufacturer's information.
6. Glassware must never be exposed to sudden temperature changes.
7. Always work in a way which neither endangers neither the user nor any other person.
8. Use the instrument only within the recommended limits of its chemical resistance and mechanical properties.
9. Only use original manufacturer's accessories and spare parts.
10. Never use force when using apparatus. Never heat an empty flask.
11. To loosen stuck stopcocks or ground joint connections, follow the cleaning instructions.

Recommendations For Use Of Separating Funnels

The essential oil determination apparatus is used extraction of volatile oils. The apparatus comes with receiver dean stark for oils heavier than water & the oils lighter than water.

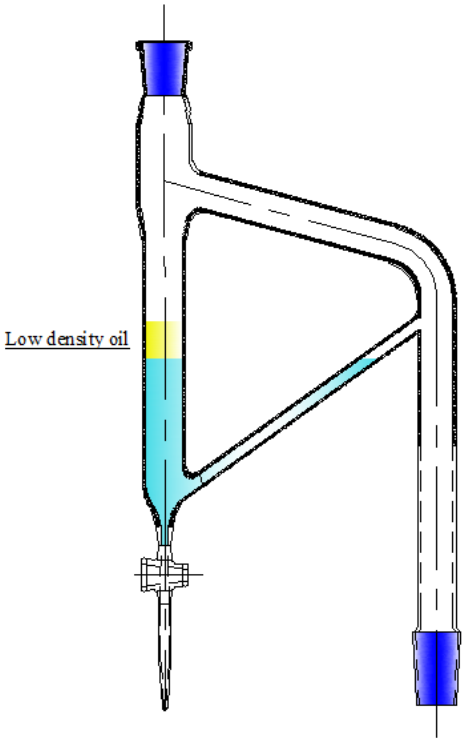
Essential oils are what are used for perfume, food, medicines, or atomizers. The apparatuses are supplied with glass key or rotaflow stopcock. The Apparatus conducts the distillation process by boiling, condensing, and decantation to separate the oil. This is the standard method for extracting essential oils.

In this standard method, the distillation procedure is done with steam distillation also called the hydrodistillation process. the water & organic product from which the extraction is needed is heated in the round bottom boiling flask. the steam is generated & condensed in the condenser. The condensate is then collected in the receiver dean stark.

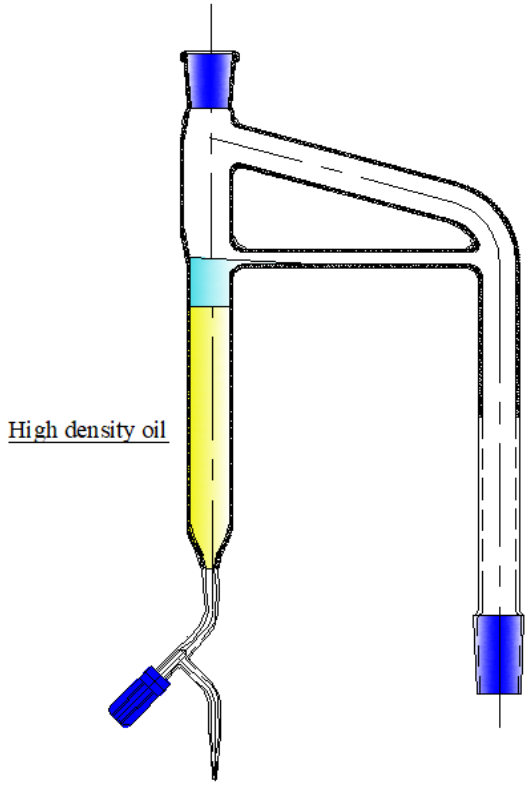
For oil lighter than the water, the water is collected at the bottom & flows back to the boiling flask from the inclined tube as shown in the left side image.

For oil heavier than the water, the water is collected above the oil, & flows back to the boiling flask from the straight horizontal tube at the top of the graduated receiver tube as shown in the right side image.

The Apparatus comes in several sizes to accommodate the size of the organic material that is being distilled. The apparatus act as a glass double boiler with several valves to increase the temperature or release the steam to lower the temperature; this has been the main method of flavor extraction.



For oils lighter than water



For oils Heavier than water

Cleaning, Rinsing & Drying To clean the apparatus soak it in a mildly alkaline cleaning solution. After the prescribed soaking time, rinse it repeatedly with water and allowed to drip dry between uses. Turn them upside down on the paper towel. You can also use lab-ware cleaners like Alconox etc. in a machine.

Autoclaving You may sterilize this in an autoclave, as the laboratory glassware is not affected during a regular cycle (15 minutes at 121°C).

Storing When storing, place apparatus in its packaging or in a place such that they do not touch each other, to avoid mechanical damage. Do not store glassware close to the front edge of shelves. Keep glassware away from hydrofluoric acids.

Disposal Because of their special composition laboratory glassware has to be cleaned and then **disposed** of according to the current regulations.

Recommending accessories

Glassco Retort Stand	: Cat No. 309.303.XX, 310.303.XX
Glassco retort Clamp	: Cat No. 324.303.XX, 326.303.XX, 328.303.XX, 334.303.XX, 335.303.XX
Glassco Boss head	: Cat. No. 337.303.XX, 338.303.03, 341.303.XX
Glassco Retort Clamp with Boss Head	: Cat. No. 390.303.XX, 391.303.XX
Glassco Heating Mantle	: select from the range of glassco heating mantles