

Dissolved Air Flotation Batch Tester from EC Engineering

The ECE DBT6 dissolved air flotation batch (jar) tester system provides a simple, rapid, economical method of evaluating dissolved air flotation processes on a bench scale. The system offers many innovative, useful features and has been well proven during years of use by a wide variety of organizations in Canada, the USA, and Japan.

The DBT6 system comes with a 30-day money back guarantee of satisfaction, and a one year warranty.



- Suitable for DAF and conventional work
- Six sample stations
- Modular design for operational flexibility and ease of use
- Compact size - 5" x 31" footprint
- Corrosion-resistant materials
- No paddle shaft binding in bearings
- Digital tachometer
- Five adjustable preset mixer speeds
- Electronic motor speed controller
- High intensity mixing system
- Simultaneous chemical dosing to all jars
- Removable baffle/dosing module
- Built-in high intensity illumination
- Built-in internal cooling fan
- Improved 1 L square jars with stopcocks
- Top recycle feed to sample jars eliminates troublesome through-wall connections
- Stainless steel certified pressure vessel recycle saturator
- Compact air compressor
- Two birch plywood carrying cases

DBT6 Dissolved Air Flotation Batch Tester

The illustration shows the main features of the DBT6 system.

The base unit (1) contains the jar support base, drive motor, DC power supply, fluorescent lamp, and system controls. The unit is compact, having a base footprint less than 5" x 31".

A solid black vertical surface (2) behind the jars provides a uniform background for observation of samples. A white plastic curtain sheet is supplied for insertion behind the jars for work with color removal and similar processes.

The mixer module (3) contains the paddle assemblies (4) and the paddle drive system. The module can be removed from the base and sample jars as a single unit, simply by lifting it off. This eliminates the need for individually lifting and securing each paddle assembly, and avoids the common problem of water on the shafts causing bearings to seize.

Mixer speed is indicated by an accurate digital tachometer (5) and is adjusted by means of a continuously variable control (6) or five switch-selectable, adjustable preset speeds (7). A digital clock with dual alarm count down / count up timers (8), and power, mixer, and light switches (9) are built into the base unit.

A high-efficiency, high-intensity, dual-tube fluorescent lighting system with electronic ballast (10) is built into the base. The good lighting and close jar spacing make it easy to document test results photographically.

A built-in internal cooling fan (11) greatly reduces the possibility of misleading results caused by sample heating.

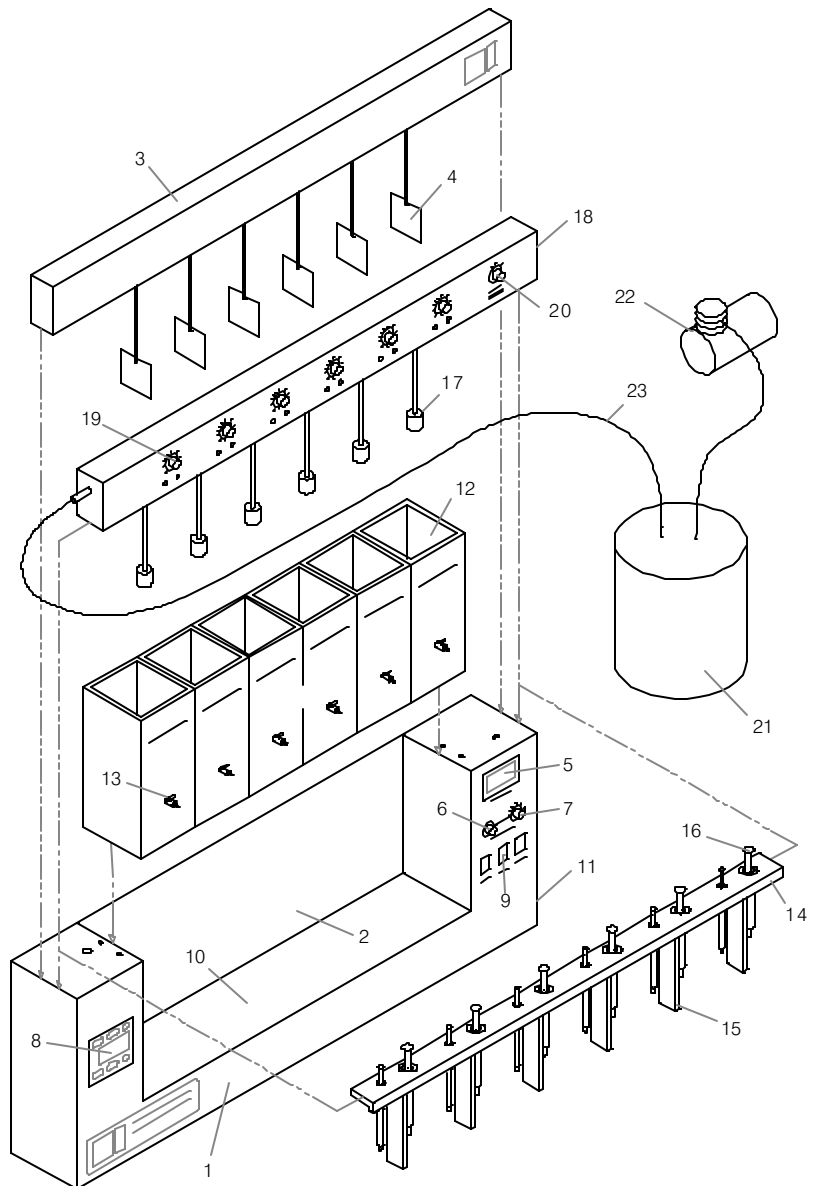
The square jars (12) used in the DBT system are far better than cylindrical beakers for all jar testing procedures. The use of one-litre sample sizes has many advantages, and vertical dimensions are the same as for standard 2 litre jars.

All ECE floc jars use a miniature precision quick-connect stopcock system (13), which has proved to be far superior to the old rubber stopper setup. Additional jars and fittings are available separately.

The DBT system uses a removable module (14) with baffles (15) and chemical dosing syringes (16). The baffles prevent vortexing and air entrainment at the high mixing intensities available, and the syringes allow accurate, simultaneous dosing of chemicals to all jars.

Recycle water is injected into the jars from the top, avoiding the many problems associated with through-wall connections. The injection systems and nozzles (17) for all six jars are contained in a single module (18) which is simply placed on the base when recycle injection is required, and lifted off immediately afterwards.

The recycle module contains individual adjustable electronic timers (19) and solenoid control valves for each station, and a three-position switch (20) for selection of various recycle injection modes. The module is automatically supplied with 16 volt DC power when it is placed on the base.



Supersaturated recycle water is provided by an 8-litre stainless steel certified pressure vessel (21) with access hatch, pressure gauge, safety relief valve, and quick-connect air and water fittings.

The saturator is partially filled with water, then pressurized to about 80 psi with the compressor (22) supplied with the system. The vessel is shaken for a short time to saturate the water, and the recycle injected into the sample jars through the recycle line (23). After recycle injection, the mixer and recycle modules are removed from the base, and the desired tests carried out on the water samples.

Initial cost of the DBT6 system is very reasonable, especially when compared with other units having fewer or less desirable features. Spare parts, service, and technical advice are readily available in North America.

For more information, detailed specifications, and current pricing, please visit us at www.ecengineering.net.



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