

BICO, INC.
3116 VALHALLA DR., BURBANK, CALIFORNIA 91510
TEL. (818) 842-7179 / FAX (818) 842-7976
SALES@BICOINC.COM

BICO EXPLOSION PROOF OIL CENTRIFUGE

OPERATING PRINCIPLE

The BICO Oil Centrifuge is designed for maximum safety. From the explosion proof motor to the optional explosion proof starting switch and speed controller. The cast aluminum door stop the high tensile cast iron housing forms an almost completely airtight chamber.

The Centrifuge meets specifications ASTM Method D-96 for determination of water and sediment in crude oil by means of centrifuge.

The explosion proof motor is a 1/3HP, 115/230 Volt, Single Phase, 1725 RPM, 60 Cycle, slow starting, ball bearing motor listed by UL (E62643) for use in Class 1, Group D and Class 2, Group E,F and G Hazardous locations.

The balanced 8-tube head design permits tubes to hang vertically when at rest. They are easily removed without disturbing the sample. Eight standard 8 inch (or California 9 inch) cone shaped, 100 ML tubes can be used. The carefully matched tube shields include Neoprene shock absorbing cushions.

One of the outstanding time saving features is the highly efficient braking mechanism which permits rapid, even deceleration without generating excessive heat, bringing the head to a stop without disturbing the sample run in minimal time.

INSTRUCTIONS

A set of rubber cushions (with holes) is furnished to accommodate the glass tubes. The cushion hole is intended to fit the glass tube snugly. Place cushion in bottom of the tube shield, (DIP THE ENDS OF THE GLASS TUBES IN TALCUM POWDER BEFORE PLACING THEM IN TUBE SHIELDS TO PREVENT STICKING) making sure that the end of the tube is in the hole of the rubber cushion.

IMPORTANT: Balance must be maintained at all operation speed levels. Always place tubes in opposing positions and/or directly opposite from each other. Numbers of tubes used must always be either TWO (2), FOUR (4), or EIGHT (8). Use tubes of like weight and shape and accurately measure contents as dissimilar weights or off balance placing will cause violent vibration with possible springing of motor shaft and damage to alignment of head.

PROCEDURE

The sample should be thoroughly representative of the material in question and the portion used should be thoroughly representative of the whole sample.

Exactly 50 ML of industrial 90 benzene (ASTM Spec. D837) shall be measured into each of multiples of two tubes, tubes to be like style for opposed balance, and exactly 50 ML of the oil to be added to each. Prior to insertion of the filled tubes into their trunion rings, they should be tightly stopped and then shaken vigorously until the contents are thoroughly mixed.

At this point in the procedure the tubes should be immersed to the 100 ML mark for ten (10) minutes in a bath. The bath apparatus shall be either a solid metal block bath or a liquid bath of sufficient depth for immersing the centrifuge tubes in a vertical position. Means shall be provided for heating the bath to 120 F (40 C).

After ten (10) minutes of immersion, the tubes should be removed from the bath and again vigorously shaken for ten (10) seconds. Outside moisture dried, and talcum applied. Then place the tubes in their respective shields, placed in opposite (opposed) position trunion rings in the centrifuge head. Close and latch the hinged door cover in the top of the centrifuge to prevent escape of any explosive gases.

The recordings are considered constant which do NOT exceed 0.2 ML differential.

Repeat the centrifuging steps above until three (3) successive recordings are constant in results. This generally requires no more than four (4) whirlings.

STARTING AND STOPPING MOTOR

It is not necessary to provide a special control to insure slow starting. BICO, INC. designed a special slow starting motor as an integral component to afford maximum safety and prevention of glass breakage from too rapid acceleration.

Smooth, even deceleration is accomplished by BICO, INC.'s, exclusive spring-loaded braking mechanism which allows a prompt smooth stop at the completion of the tests. This body of the centrifuge and brake force is applied to the head not the motor shaft, and minimum force is required. Mechanism is self-adjusting, no adjustments are ever necessary.

RECOMMENDED SPARE PARTS FOR
NORMAL ONE (1) YEAR OPERATION FOR 8-TUBE OIL CENTRIFUGE

8/ea	23-6 Brass Tube Shields
8/ea	23-18 Rubber Cushions/Blunt or Sharp
8/ea	23-19 Brass Sleeve f/Rubber Cushion
1/ea	23-25 Plate Brake Spring (Long)
1/ea	23-26 Handle Brake Spring (Short)

FOR TWO (2) YEAR OPERATION ADD:

1/set 23-23/4/9 Brake Shoes with Brake Links and Link Pin

NOTE: PLEASE GIVE SERIAL NUMBER OF UNIT WHEN ORDERING PARTS.

NOTE

These instructions are intended solely for the convenience of the technician as assistance in using BICO, INC. products for making official ASTM and AASHO tests for which the product was designed. These instructions do not necessarily coincide with official tests in every detail and whenever deviation occurs it is specifically the published procedures of ASTM and AASHO which shall prevail. BICO, INC. assumes no liability or responsibility for results and respectfully refers users of BICO instruments to official published manuals of authorized test societies.