



LABCONCO CORPORATION

8811 Prospect Avenue
Kansas City, MO 64132
(800) 821-5525, (816) 333-8811
(816) 363-0130 fax
labconco@labconco.com

User's Manual

Crude Fiber Digestion Apparatus

Models

3000100
3000200

To receive important product updates,
complete your product registration card
online at register.labconco.com

Please read the User's Manual before operating the equipment.

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Warranty

Labconco Corporation provides a warranty to the original buyer for the repair or replacement of parts and reasonable labor as a result of normal and proper use of the equipment with compatible chemicals. Broken glassware and maintenance items, such as filters, gaskets, light bulbs, finishes and lubrication are not warranted. Excluded from warranty are products with improper installation, erratic electrical or utility supply, unauthorized repair and products used with incompatible chemicals.

The warranty for the Crude Fiber Digestion Apparatus will expire one year from date of installation or two years from date of shipment from Labconco, whichever is sooner. Warranty is non-transferable and only applies to the owner (organization) of record.

Buyer is exclusively responsible for the set-up, installation, verification, decontamination or calibration of equipment. This limited warranty covers parts and labor, but not transportation and insurance charges. If the failure is determined to be covered under this warranty, the dealer or Labconco Corporation will authorize repair or replacement of all defective parts to restore the unit to operation. Repairs may be completed by 3rd party service agents approved by Labconco Corporation. Labconco Corporation reserves the rights to limit this warranty based on a service agent's travel, working hours, the site's entry restrictions and unobstructed access to serviceable components of the product.

Under no circumstances shall Labconco Corporation be liable for indirect, consequential, or special damages of any kind. This warranty is exclusive and in lieu of all other warranties whether oral, or implied.

Returned or Damaged Goods

Do not return goods without the prior authorization from Labconco. Unauthorized returns will not be accepted. If your shipment was damaged in transit, you must file a claim directly with the freight carrier. Labconco Corporation and its dealers are not responsible for shipping damages.

The United States Interstate Commerce Commission rules require that claims be filed with the delivery carrier within fifteen (15) days of delivery.

Limitation of Liability

The disposal and/or emission of substances used in connection with this equipment may be governed by various federal, state, or local regulations. All users of this equipment are required to become familiar with any regulations that apply in the user's area concerning the dumping of waste materials in or upon water, land, or air and to comply with such regulations. Labconco Corporation is held harmless with respect to user's compliance with such regulations.

Contacting Labconco Corporation

If you have questions that are not addressed in this manual, or if you need technical assistance, contact Labconco's Customer Service Department or Labconco's Product Service Department at 1-800-821-5525 or 1-816-333-8811, between the hours of 7:30 a.m. and 5:30 p.m., Central Standard Time.

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Chapter 1: Introduction

Thank you for displaying confidence in us by selecting a Labconco Crude Fiber Digestion Apparatus. Our design engineers, assemblers and inspectors have utilized their skills and years of experience to ensure that the Labconco Crude Fiber Digestion Apparatus meets our high standards of quality and performance.



This manual should be read carefully by all the end users in order to become familiar with the operation of the Crude Fiber Digestion Apparatus. Recommendations are made within the manual to help you obtain maximum performance and life from your product.

We have included sections on initial set up, operation, and maintenance to provide you with all the tools necessary to achieve maximum performance. If you have questions or concerns, do not hesitate to call us at 1-800-821-5525 for assistance.

WARNING: The disposal of substances used in connection with this equipment may be governed by various federal, state or local regulations. All users of this equipment are urged to become familiar with any regulations that apply in the user's area concerning the dumping of waste materials in or upon water, land or air and to comply with such regulations.

Components Shipped

Carefully check the contents of the carton for damage that might have occurred in transit. Do not discard the carton or packaging material until all components have been checked against the following component list and the equipment has been installed and tested.

As shipped, the carton should contain the following:

| Part Number | Description |
|-------------|--------------------------------------|
| 3000100 | Crude Fiber Apparatus 115V, 50/60 Hz |
| or | |
| 30002000 | Crude Fiber Apparatus 230V, 50/60 Hz |
| 3002300 | User's Manual |
| 1935000 | Crude Fiber Beakers – 600 ml (12) |

General Description

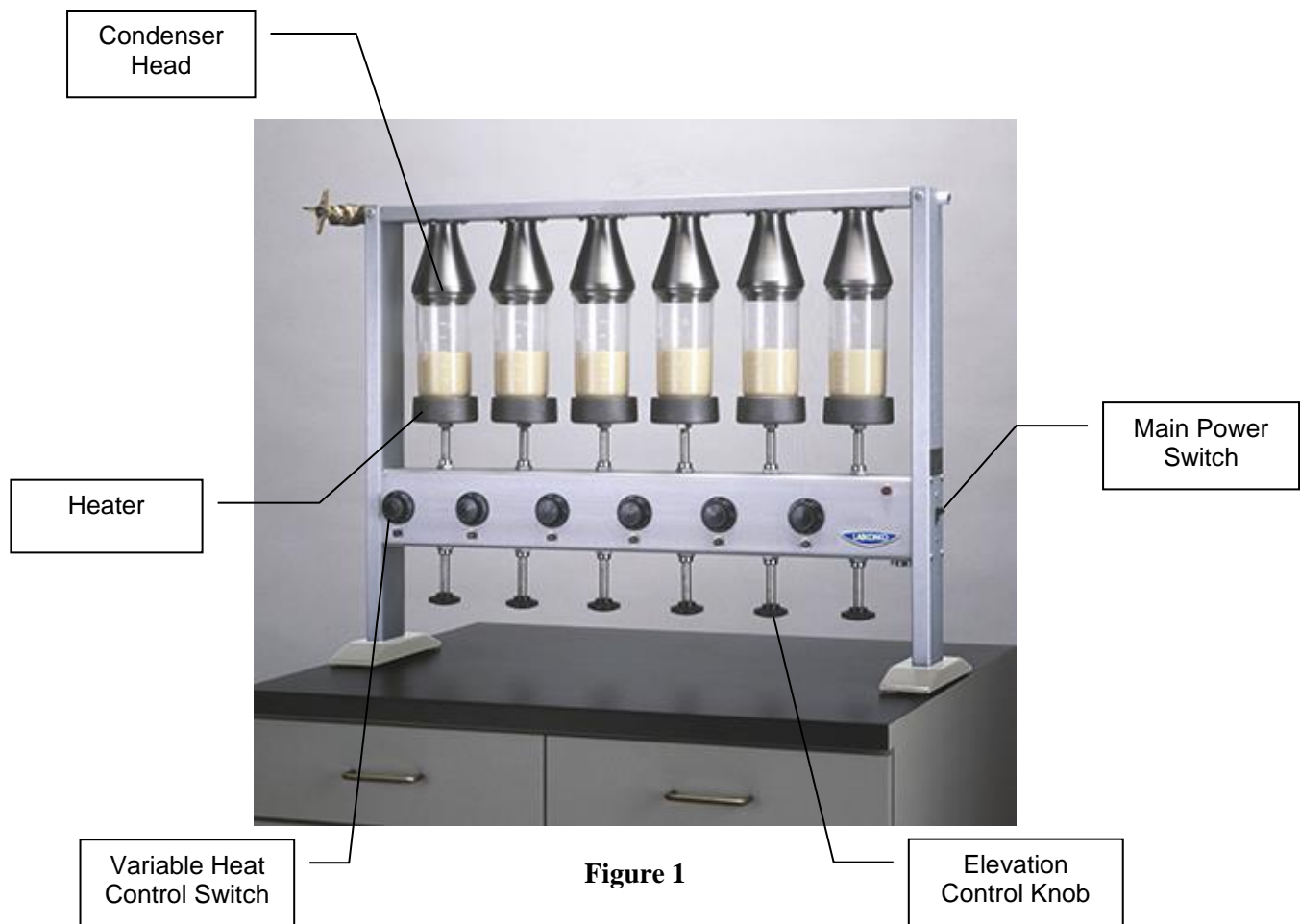
The Labconco Crude Fiber Digestion apparatus is designed for single or multiple reflux digestions of samples for crude fiber content according to methods prescribed by the Association of Official Analytical Chemists (AOAC).

The following instructions outline the features, installations and maintenance of the Crude Fiber Digestor Models 3000100, 3000200. This manual should be kept handy so that questions of use or service can be answered.

Component Identification

- (1) **Manifold Assembly.** The hood features a molded, 6" diameter exhaust connection sized to allow for a minimum of static pressure loss through the hood structure and one that still can provide a good transport velocity through the exhaust system.
- (2) **Condenser Head System.** These cone shaped heads located above each heater provide an essential part of the digestion process. The vapors from the boiling digestion medium are condensed on the condenser heads and returned to the medium continually washing the sides of the beakers in the process.
- (3) **Heater System.** Each 350 watt adjustable spring loaded heater provides an even distribution of heat through the use of coiled heater wires embedded in a ceramic material.

- (4) **Variable Heat Control Switch.** Provides variable input from 20-100% of capacity to each heater.
- (5) **Elevation Control Knob.** Adjusts beakers positions.
- (6) **Main Power Switch.** Turn apparatus on and off without need of changing variable heat control switches.



Chapter 2: Installation

Model 3000100, 6 unit, 115 Volt, 50/60 Hz, 18.3 amps, is complete except no power cord is supplied on the unit. The customer must provide wiring to the main power switch in accordance with local electrical codes. The unit is supplied with 12, 600 ml beakers. The unit is also equipped with individual infinite control switches with pilot lights for each heater and a main ON/OFF switch. The condensers are Type 304 stainless steel. A 3/8" NPT valve is provided to control water flow through condensers.

Model 3000200, 6 unit, 230 Volt, 50/60 Hz, 9.11 amps, is complete except no power cord is supplied on this unit. The customer must provide wiring to main power switch in accordance with local electrical codes. The unit is supplied with 12, 600 ml beakers. The unit is also equipped with 12 each individual infinite control switches with pilot lights for each heater and a main ON/OFF switch. The condensers are Type 304 stainless steel. A 3/8" NPT valve is provided to control water flow through condensers.

Location

Choose a location in the laboratory which has a convenient electrical outlet of the voltage required, a cold water supply of 3/8" NPT and drain facilities of at least 1/2" NPT.

Connections

Connect the 3/8" NPT water inlet valve, located on the upper left side of the unit to your cold water supply. This valve regulates the flow of water through the condenser heads.

Connect the 3/8" NPT water outlet located on the upper right side of the unit to an open drain area of at least 1/2" in size. An open drain connection will allow the operator to make a visual check of water flow through the condenser head system.

After the proper electrical connections are made, the unit is now ready for routine operation.

Start-Up and Check-Out

All the heater control switches should be turned on to insure proper performance.

Chapter 3:

Normal Operation

The following section provides a general outline of steps necessary to perform a routine digestion on the Labconco Crude Fiber Digestor. Actual test methods, sample preparation, solvent choices, etc., are determined by official methods of the AOAC and should be referred to in all cases.

- Turn on cold water supply, check visual flow at the drain area. The heater and water flow rates may be adjusted to vary the reflux rates according to the operator's preference.
- Prepare samples per standard method for the product under examination.
- Place required quantity of sample in the beaker.
- Place digestion medium of proper type and quantity into beaker.
- Place beaker on the heaters and while firmly holding knob turn 1/4 turn to the left, and slowly let beaker rise to condenser head. **DO** **NOT** let go of knob until beaker is in position against condenser head.
- Turn the main power switch, located on the right side, to the "ON" position. Controls on the panel independently regulate one 350 watt heater. The pilot lights indicate heater "ON" cycle.
- Follow AOAC method and procedure for determination of fiber content

Chapter 4:

Routine Maintenance

Maintenance

If problems develop with unit, contact the laboratory dealer from whom you purchased the unit. He will be happy to assist you.

If satisfaction is not obtained, contact Labconco Corporation, 8811 Prospect, Kansas City, Missouri 64132. Phone 1-800-821-5525.

Chapter 5: Replacement Parts & Accessories

Replacement Parts List

| Part Number | Description |
|-------------|---|
| 1315400 | Infinite Control, 120 Volt, 15 Amp |
| 1315500 | Infinite Control, 230 Volt, 15 Amp |
| 1315900 | Toggle Switch, 120 Volt/230 Volt, 15 Amp |
| 1351600 | Valve, needle, water |
| 1870200 | Knob for infinite control |
| 3003100 | Heating element, 115 Volt, 350 Watt |
| 3003200 | Heating element, 230 Volt, 350 Watt |
| 3004300 | Beaker, 600 ml, Package of 6 |
| 3013500 | No. 14AF – White heater harness wire, stranded, 15' length |
| 3013600 | No. 14AF – Black heater harness wire, stranded, 15' length |
| 3013700 | No. 12AF – White heater harness wire, stranded, 15' length |
| 3013800 | No. 18AF – Pilot light wire, stranded, 15' length |
| 3013900 | No. 18 Heater lead wire, stranded nickel, glass braid, 15' length |
| 3020800 | Condenser Assembly |
| 3022500 | Condenser Gasket |

Accessory Parts List

| Part Number | Description |
|-------------|---|
| 5510000 | California Modified Büchner Funnel, complete. Consists of standard polyethylene two-piece funnel with 200 mesh stainless steel screen. |
| 5520100 | Replacement screw only, for #5521000 below. |
| 5520200 | Back-up plate only for #5521000 below. |
| 5521000 | Oklahoma State Filter, complete. Constructed of stainless steel, one-piece with threaded cap. 200 mesh screw with perforated back-up plate. |

Appendix A: Dimensions

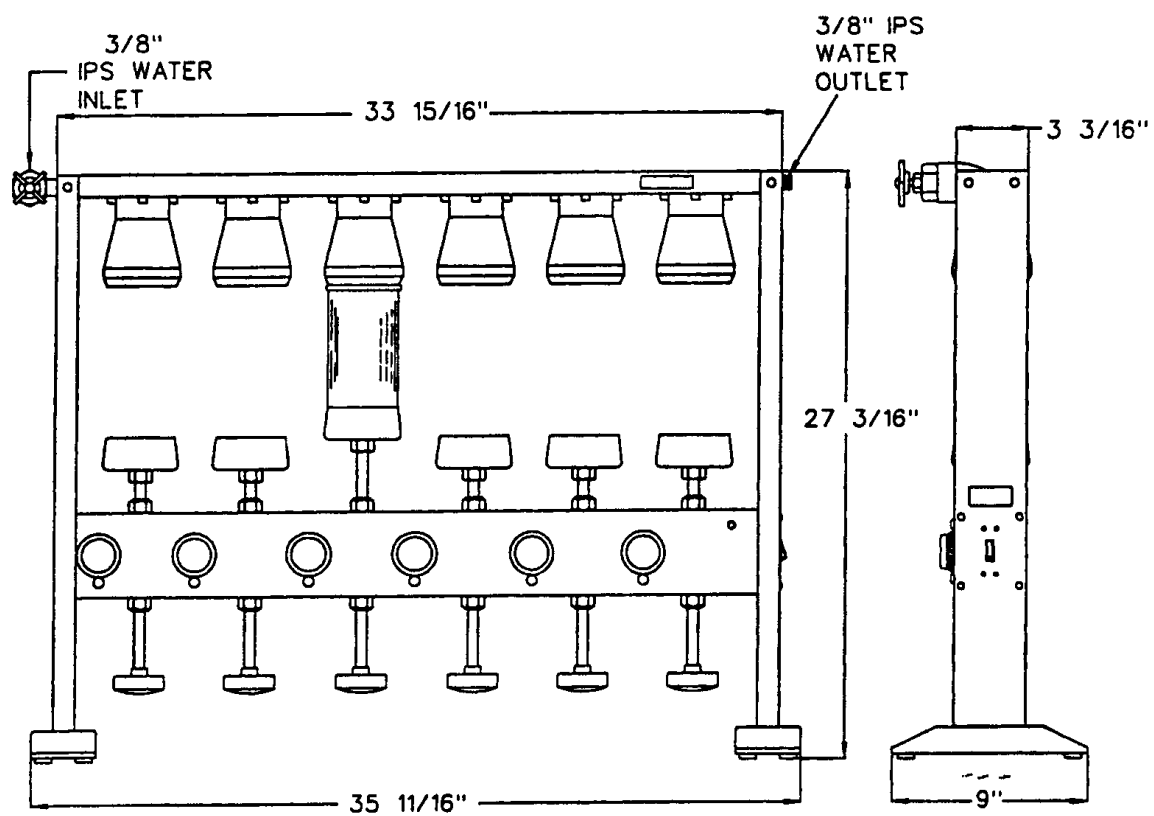


Figure 2

Appendix B: Wiring Diagram

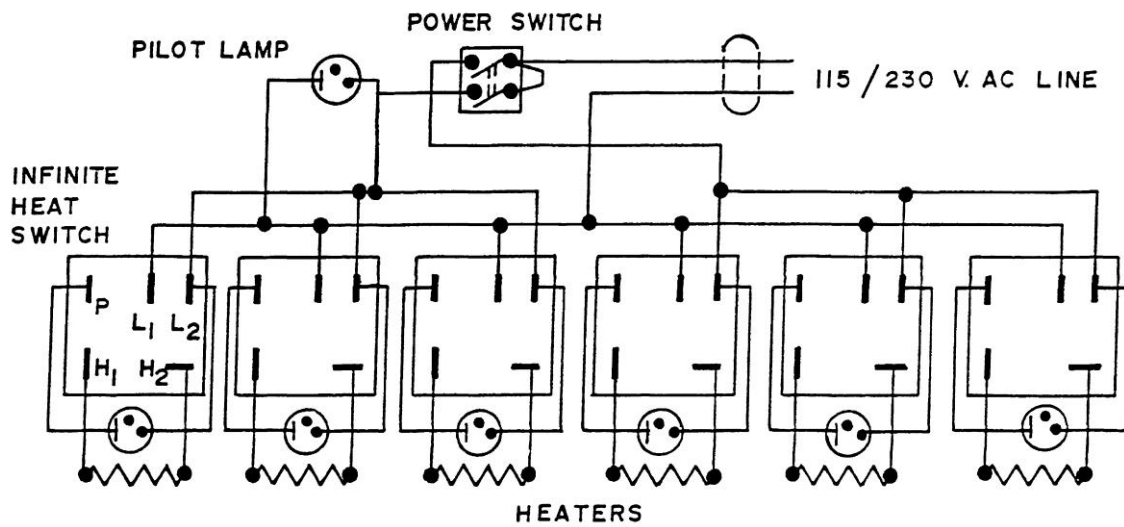


Figure 3