

## TWO-PLACE DIGESTION UNIT

The Two-Place Digestion Unit offers the same rugged construction as larger Kjeldahl models, plus it is portable and may be conveniently placed on any cabinet or benchtop.

The Digestion Unit, operated by infinite control switches, has a sturdy welded steel framework, and is epoxy coated to provide corrosion resistance. The 600-watt curved heaters are specifically designed to cradle 500 ml or 800 ml Kjeldahl flasks to provide fast, evenly distributed heat. Individual infinite control knobs provide variable heat input from 20-100% of capacity. The chlorinated polyvinyl chloride (CPVC) exhaust manifold fitted with Teflon nipples is standard on every unit. Unit is completely assembled and factory wired for 115 volt, 50/60 Hz, 11 amp AC operation. Unit includes an 8-ft, 3-wire cord and plug.

Dimensions: 10<sup>3</sup>/<sub>8</sub>" W x 18<sup>1</sup>/<sub>4</sub>" D x 16<sup>3</sup>/<sub>4</sub>" H.

**LK-21284      3991.50/ea**



## TWO-PLACE KJELDAHL DISTILLATION UNIT



The distillation manifold is equipped with seamless epoxy-coated stainless steel tubes. No fittings or gaskets are required, eliminating a source for leaks. Inlet and outlet water connections are <sup>3</sup>/<sub>8</sub>" NPT. Connection to a water source with tubing and fittings is required and should not be less than <sup>5</sup>/<sub>16</sub>" ID. Water discharged is not contaminated with corrosives so standard drain lines may be used. The 600-watt curved ceramic heaters securely meet the bases of 500 ml or 800 ml Kjeldahl flasks to provide fast, evenly distributed heat. Individual infinite control knobs direct the variable input from 20-100% of capacity.

Supplied with two connecting bulbs and two delivery tubes. Unit is completely assembled and factory wired for 115 volt, 50/60 Hz, 11 amp AC operation. Unit includes an 8-ft, 3-wire cord and plug. Frame is constructed of epoxy coated steel.

Dimensions: 10" W x 18<sup>1</sup>/<sub>4</sub>" D x 30<sup>1</sup>/<sub>8</sub>" H

**LK-21285      3991.50/ea**

## RAPID DIGESTERS

Available in 4- or 25-place models, the Rapid Digesters were developed in a working laboratory environment following extensive interviews with Kjeldahl users. Only Labconco's Rapid Digesters provide an individual ceramic heater module for each tube to provide efficient, uniform heat transfer. Unlike aluminum block designs, Labconco's ceramic modules have virtually the same coefficient of heat expansion as the digestion tube. This means more rapid destruction of organic material resulting in faster digestions. Digestion times range from 25 to 45 minutes depending on the sample type and catalyst. Each ceramic heater is insulated on all four sides as well as the bottom. This prevents heat loss and assures low energy consumption while maintaining reduced external housing



temperatures. Accessory fume removal manifolds and digestion tubes are offered to complete the digestion system. The RapidStill II provides the ideal companion for the Rapid Digesters.

Description	NCL #	Price/ea
4-place	<b>LK-23080</b>	<b>4275.00</b>
25-place	<b>LK-23012</b>	<b>9490.50</b>



### 4-PLACE FUME REMOVAL SYSTEM

For Rapid Digester-4. Consists of borosilicate glass manifold with 4 bulb eductors precisely aligned to rest atop the digestion tubes. Manifold is encased in aluminum housing with plastic handle. A 5-foot rubber connecting hose is supplied for connection to a water aspirator (not included but required). Dimensions: 4<sup>3</sup>/<sub>4</sub>" W x 5<sup>3</sup>/<sub>8</sub>" D x 4" H.

**LK-23540**                      **1012.50/ea**



### 25-PLACE FUME REMOVAL SYSTEM

For Rapid Digester-25. Consists of borosilicate glass manifold with 25 bulb eductors precisely aligned to rest atop the digestion tubes. Manifold is encased in aluminum housing with plastic handle. A 2-foot rubber connecting hose is supplied for connection to a water aspirator (not included but required). Unit includes an aluminum support stand and drip pan. Average water consumption is 2.5 gpm. Dimensions: 16<sup>1</sup>/<sub>2</sub>" W x 18<sup>1</sup>/<sub>2</sub>" D x 4" H.

**LK-23500**                      **3811.50/ea**



### DIGESTION TUBES

Designed for uniform wall thickness and impact strength. Made of borosilicate glass with heavy-duty retention lip and contoured bottom for optimum heat transfer and minimal thermal shock. Volumetric Tubes have an easy-to-read calibration mark for accurate dilutions and a built-in construction for maximum refluxing and digestion speed.

Packs contain 5 tubes; cases contain 25 tubes.

Description	NCL #	Price/pk	Price/cs
straight, 250 ml	<b>LK-23040</b>	<b>215.00</b>	<b>949.50</b>
volumetric, 250 ml	<b>LK-23030</b>	<b>254.00</b>	<b>1026.00</b>



## RAPIDSTILL II

The RapidStill II is an automatic steam distillation unit designed specifically for macro Kjeldahl nitrogen determinations. It serves as a companion to the Rapid Digester 4 and Rapid Digester 25. Once samples have cooled from the digestion process, simply dilute with water and place one sample tube on the RapidStill II. Then add the sodium hydroxide by depressing a built-in dispenser switch and start the distillation process by activating the timer. Each distillation takes five to ten minutes.

### Features and Benefits:

- ✓ Compactly designed to conveniently fit on a countertop
- ✓ Boiler water switch is interlocked to prevent its operation during the heating of the boiler
- ✓ Built-in sodium hydroxide switch is interlocked to operate only when the boiler heater is on
- ✓ Corrosion-resistant inlet tubes for sodium hydroxide and steam are made of chemically inert Teflon for long life
- ✓ Distribution head serves as a trap preventing the NaOH from entering the receiving flask
- ✓ Condenser ventilation valve prevents siphoning of distillate back into the condenser chamber
- ✓ Flow restrictor regulates the cooling water flow rate
- ✓ Digestion tube retainer is spring loaded to securely hold the tube during distillation
- ✓ Distillation timer switch is an infinitely adjustable 0-15 minute timer that controls the dispensing of steam into the digestion tube. It is interlocked to function only when the boiler heater is on. The NaOH cannot be dispensed into the digestion tube when the timer is in operation. Automatically shuts off the distillation process
- ✓ Sight gauge lets you monitor water level in the boiler
- ✓ Safety cover protects the condenser
- ✓ Safety door surrounds the digestion tube and protects the operator from digestion tube breakage
- ✓ Molded tray catches spills and speeds clean-up



### RAPIDSTILL II

Frame is constructed of epoxy coated steel. Unit includes spring-loaded digestion tube retainer, Teflon sodium hydroxide and steam inlet tubes, built-in peristaltic pump for sodium hydroxide dispensing, borosilicate glass condenser with ventilation valve, 0-15 minute adjustable audible timer, steam generator, water level sight gauge, and molded plastic spillage tray. Steam is generated by an 1100 watt heater surrounding a 1000 ml flask. Flow restrictor regulates condenser flow rate to 1 gallon per minute.

External dimensions:  
18" W x 12<sup>3</sup>/<sub>4</sub>" D x 29<sup>3</sup>/<sub>4</sub>" H

**Electrical:** Wired for operation on 115 volt, 60 Hz, 15 amps. An 8-ft, 3-wire cord and plug are included.

**LK-65200      7807.50/ea**

## KJELDAHL DIGESTION/DISTILLATION BLOCKS

Robust aluminum construction permits operation of the units as required by digestion and distillation processes. Individual built-in controllers regulate quartz fiber heating elements up to 800°C. "Heater On" light for each recess indicates when power is being supplied to the heater. Back-mounted brackets hold flask rest rods which are supplied with each unit. Two clamps, 0.63" (1.5 cm) diameter bore, are fitted on each side. For 115VAC operation.



Specifications	Dimensions	Capacity	NCL #	Price/ea
<b>MICRO</b> Two-Place Unit	12" W x 10.6" D x 8" H	100-300 ml	<b>MQ-3822</b>	<b>1350.00</b>
<b>MACRO</b> Two-Place Unit	12" W x 10.6" D x 8" H	500-800 ml	<b>MQ-3824</b>	<b>1557.00</b>

## HEATING MANTLE

Vented case creates a unique air flow which allows housing to be safe to the touch when in use. Outer housing is constructed of chemical resistant and resilient polypropylene minimizing damage from spillage. Element temperature range from ambient to 450°C. The coiled heating element ensures minimum risk of flask breakage. Heating cartridge can be quickly and simply replaced. Holds 500 ml or 800 ml flasks. "Heater On" light indicates when power is being supplied to the heater. All mantles are double fused for added safety. Support rod holder accepts 0.5" (12.7 mm) diameter support rods. For 115VAC operation.

**EM-500      462.60/ea**



## KJELDAHL DISTILLATION SET UP, WITH GROUND GLASS JOINTS, 500 ML

Includes 500 ml Kjeldahl flask, connecting tube with bulb, and condenser. Has 29/42 joint between flask and connector and 19/38 joint between connector and condenser. Total height: 410 mm; total width: 300 mm.

Description	NCL #	Price/ea
Complete Unit	<b>KC-334</b>	<b>322.20</b>
Flask Only	<b>KC-334A</b>	<b>111.15</b>
Connecting Tube/Bulb Only	<b>KC-334B</b>	<b>169.85</b>
Condenser Only	<b>KC-334C</b>	<b>159.60</b>



## KJELDAHL FLASKS

With long neck for Kjeldahl digestions

Size	NCL #	Price/ea	Price/pk of 6
100 ml	<b>FK-111</b>	<b>18.25</b>	<b>90.45</b>
500 ml	<b>FK-555</b>	<b>25.20</b>	<b>124.95</b>
800 ml	<b>FK-800</b>	<b>22.95</b>	<b>113.80</b>



## KJELDAHL FLASKS, KOOL-GRIP®

Borosilicate flask with thicker heat insulating Kool-Grip® jacket to accommodate for the higher temperatures used in Kjeldahl digestion.

**FK-800G      800 ml      45.00/ea**



## CONNECTING BULBS

With long neck for Kjeldahl digestions. The connecting bulb separates liquid from vapors prior to the vapors entering the condenser and effectively traps caustic mist that may carry over to the recovery solution. The bulb has a dual baffle built into the cylindrical bulb which provides double protection against liquid caustic leakage. Because the baffles are not fused to the glass, the bulb is long-lasting.

**LC-208      62.50/ea      375.00/pk of 6**

