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Kjeldahl DIGESTION & DISTILLATION SYSTEM

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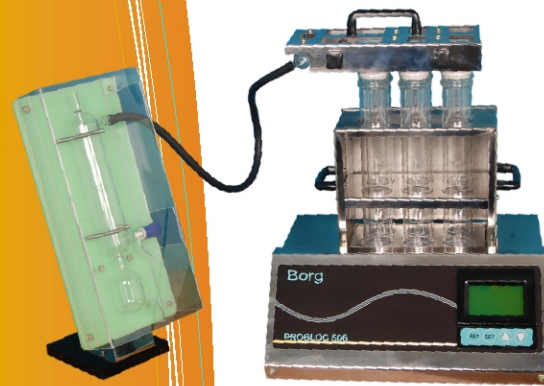
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This Brochure provides an insight into our Probloc, Prokjet Series Kjeldahl Digestion and Distillation system range, Related applications and service.

Kjeldahl Digestion Units - Probloc pB Series



Features

| Parameter | PROBLOC (with chosen PROKJEL Distillation system) |
|-------------------|--|
| Sample size | Up to 5 gm / 15 ml relevant to nitrogen content |
| Digestion time | 30-45 minutes typical. |
| Temperature Range | 40-450 °C. Accuracy: $\pm 0.1^\circ\text{C}$ |
| Controller | PID based Micro controller with thermocouple sensor. |
| Setting | Feather Touch Keys |
| Indication | Graphical LCD |
| Heating Block | Special Aluminum alloy. |
| Power Supply | 230 V, 50 Hz Single phase AC. |

- » Homogenous and fast digestion of samples.
- » Custom-built high-density cartridge heater made of stainless steel.
- » Special aluminum alloy block that ensures homogenous heating.
- » Optimum clearance between digestion tubes and walls of the wells.
- » Optimum ceramic fiber insulation bounded by Asbestos boards for effective insulation.
- » Integrated Microcontroller based precise PID Module with Feather touch Controls and Large Graphical LCD Display. In-Built Timer ensures automatic Cut-off of unit after programmed digestion time is complete.
- » Multi cycle programmable ramp possible
- » Specially designed leak proof Exhaust Manifold assembly made of glass with stainless steel stand.
- » Specially designed Stainless Steel Digestion Tube holder.
- » Provided along with chemical & heat resistant Teflon caps for the Digestion tube and a Stainless Steel Manifold rack.
- » Specially designed vapour aspirator pump made of borosilicate glass with teflon drain valve, fixed on a nylon board with acrylic cover and stand.
- » Vapour aspiration tube is made of Viton.
- » Heat deflector plate made of SS316 grade
- » Available with acid fume neutralizer AFN 50 as an optional accessory.

Technical Data

| Model | pB 312 | pB 324 | pB 340 | pB 506 | pB 512 | pB 520 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| No. of Samples | 12 | 24 | 40 | 6 | 12 | 20 |
| Tube Capacity (ml) | 100 | 100 | 100 | 250 | 250 | 250 |
| Tube Dimension (mm) | 26x300 | 26x300 | 26x300 | 42x300 | 42x300 | 42x300 |
| Power (Watts) | 1000 | 2000 | 3000 | 1000 | 2000 | 3000 |
| Block Dim. WxDxH (mm) | 350x200x140 | 360x320x140 | 420x420x140 | 340x200x140 | 400x320x140 | 460x320x140 |

Kjeldahl Distillation Units - Prokjel Series



Graphical LCD Display



Feather Touch Controls

Features for PROKJEL Series

- » Auto / Manual Modes.
- » Automatic Sequencing of all processes (Except for PROKJEL M).
- » Integrated Microcontroller based precise PID Module with Feather Touch Controls and Large Graphical LCD Display contains menu's and sub menu's for setting all parameters.
- » Completely user friendly.. No technical expertise required.
- » Automatic Energy efficient steam generator available either as Stainless Steel or Borosilicate Glass.
- » Automatic Water Level maintenance of Steam Generator..
- » Steam Generator Efficiency adjustable upto 100%.
- » Safety Door Interlock present. Machine will not start when the door is open.
- » Error indication if Tube is not in place.
- » Automatic Error diagnosis with alarm indication.
- » Reservoir level sensors.
- » Software for data calculation and storage (Optional).
- » Preset programs of about 50nos in-built. Further programs can be created by the user (PROKJEL AU).
- » Moulded Corrosion free front panel.
- » MS Exterior neatly powder coated (SS Exterior Optional).
- » Safety valve, Secondary thermostat for additional safety for steam generator.
- » Low Water Level cut off for safe guarding the heater from running dry
- » Additional Vent valve to avoid back suction of distillate at the end of distillation cycle.

Technical Data

| Parameter | Prokjel Series (with chosen digestion system) |
|------------------------|---|
| Nitrogen Recovery | 99.8 - 100 % |
| Accuracy | Supersedes conventional Kjeldahl apparatus results. |
| Reproducibility | $\pm 1\%$ relative or better |
| Analysis range | 0.5 - 160 mg of nitrogen / 3 - 1000 mg of protein |
| Distillation Capacity | 3 - 4 minutes per sample (15 to 20 samples per hour) |
| Receiver Solution * | Programmable between 15-50ml |
| Water dilution | Programmable between 0-100 ml in steps of 10ml |
| Alkali addition | Automatic mode / Manual mode (Continuous) |
| Alkali volume | Programmable between 15 - 50 ml |
| Reaction delay time | Programmable 0-5 minutes. |
| Distillation time | Programmable 1-99 minutes |
| Steam generator | Borosilicate glass / Stainless Steel and Safety valve |
| Temperature control | RTD based Micro controller with Standby mode. |
| Water level control | Stainless Steel Float Switches |
| Cooling Water | Automatic (90 liters per hour) Nil with CRC 25 Chiller* |
| Condenser | Made of borosilicate glass |
| Distillate collection | 18 - 25 ml per minute optimally. |
| Water/Alkali tank | 5 liters ea. |
| Dimension (W x D x H) | 370 x 320 x 720 mm. |
| Electrical requirement | 230V, 50Hz Single phase AC, 1500W. |

* Optional Accessory

PROKJEL M - Manual

- » Manual Alkali Addition
- » Automatic Sample Dilution
- » Automatic Steam Processing
- » Automatic Reaction Delay Time
- » End of Cycle Buzzer

PROKJEL SE - Semi Automatic

- » Automatic Alkali Addition
- » Automatic Sample Dilution
- » Automatic Steam Processing
- » Automatic Reaction Delay Time
- » Automatic KmnO4 Addition
- » End of Cycle Buzzer

PROKJEL AU - Automatic

- » Automatic Alkali Addition
- » Automatic Sample Dilution
- » Automatic Steam Processing
- » Automatic Reaction Delay Time
- » Automatic KmnO4 Addition
- » Automatic Receiver Solution Addition
- » Automatic Sample Residue Removal
- » RS 232 Port for External Auto Titration
- » End of Cycle Buzzer

PROKJEL AN - Fully Automatic

- » Automatic Alkali Addition
- » Automatic Sample Dilution
- » Automatic Steam Processing
- » Automatic Reaction Delay Time
- » Automatic KmnO4 Addition
- » Automatic Receiver Solution Addition
- » Automatic Sample Residue Removal
- » In-Built Auto Titrator
- » Automatic End Point detection
- » Automatic Result calculation
- » End of Cycle Buzzer