

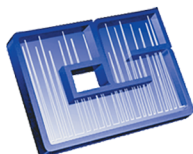
## DigiBlock Digester

*Solutions in Sample Preparation*

- One stop operation •
- Higher throughput of samples •
- Uniform temperature across the block •
- Minimum radiant heat loss •
- Reduced contamination •
- Cost savings by disposable digestion tubes •



LabTech, Inc.



**CHROMATOGRAPHIC  
SPECIALTIES INC.**

[www.chromspec.com](http://www.chromspec.com)

1-800-267-8103 • [sales@chromspec.com](mailto:sales@chromspec.com) • [tech@chromspec.com](mailto:tech@chromspec.com)



# Sample Preparation Solution

Sample preparation procedures account for approximately 85% of the time associated with lab analysis.

Quality, ease of use and speed are key factors in today's analytical lab.

LabTech DigiBlock digester provides clean, economical, efficient digestions. It is effective for the digestion and evaporation of samples, which simplifies and speeds up your preparation. They are the most ideal equipments for heating digestion in fields of chemistry, environment, food, pharmacy, and biochemistry, etc. LabTech DigiBlock digester has been accepted and used in EPA Methods (i.e. 200.2, 200.7, 200.8, 200.9, 365.1, 3010a, 3020b, 3050b, and 3060), which is good for the sample pretreatment for the analyses by AA, ICP, ICP-MS etc.



DigiBlock digesters include S series, ED series and EHD series. The heating area is made of graphite or aluminum alloy protected by Teflon. DigiBlock can accommodate up to 54 graduated tubes and can operate from ambient temperature to 450°C. DigiBlock uses low cost, disposable digestion tubes to speed up and simplify the digestion process. The digestion tubes are clean, with no detectable background contaminations and do not require washing with acids prior to use. Different sizes disposable vessels are available to meet your laboratory needs. All DigiBlock units include racks for sample handling and a tube basic set (according to the model).



## 7 Good Reasons to Select LabTech DigiBlock

- One-stop operation including digestion, evaporation and constant-volume that eliminates possibility of sample loss and contamination during sample transfer
- Advanced microprocessor makes temperature control accuracy  $\pm 0.2^{\circ}\text{C}$
- Excellent thermo conductivity ensure the samples diversity lower than  $\pm 1.5^{\circ}\text{C}$  @  $150^{\circ}\text{C}$
- DigiBlock units come complete with 18-place racks which facilitate the operator to load or unload 18 samples at a time
- Programmable multipoint heating function satisfies different heating requirements
- Over-heat protection function
- Corrosion resistant for clean lab



# DigiBlock Digester

## ED Series-Economical, Efficient, Anticorrosion



### ED16

- Competitive price with small productivity
- 100ml digestion tubes /Φ44mm digestion wells
- Suitable for microwave acid drying, and dramatically cut down heating time

### ED36

- 50/100ml digestion tubes
- Digest up to 36 samples simultaneously
- Fast heating digestion of food, biological samples, waste water, soil, industry, cosmetic, medicine, etc.

### ED54

- Digest up to 54 samples simultaneously
- Graphite heating material, max. temperature 240°C
- Fast heating digestion of food, biological samples, waste water, soil, industry, cosmetic, medicine, etc

## EHD Series-High Temperature, Efficient, Powerful



### EHD20

- Max. temperature 415°C
- Φ44mm digestion wells
- Especially for Kjeldahl determination
- Fast heating digestion of food, fertilizer, soil, corn, feed, water, medicine, protein, etc.

### EHD36

- Max. temperature 415°C
- Especially for adding H<sub>2</sub>SO<sub>4</sub> application which will speed up the digestion of organic component
- Suitable for all wet digestion methods
- Especially for digestion in TN/TP determination.

## S Series- Intelligent, Green, Energy Saving



ED36S

### ED16S

- Anticorrosive coating
- Hot indication even power off
- 100ml digestion tubes
- Φ44mm digestion wells
- Power: 1000W
- Especially suitable for microwave acid evaporation and pretreatment

### ED36S

- 50/100ml digestion tubes
- Digest up to 36 samples simultaneously
- Hot indication even power off
- Power: 1400W
- Fast heating digestion of food, biological samples, waste water, soil, industry, cosmetic, medicine, etc.



EHD36S

### ED54S

- Digest up to 54 samples simultaneously
- Graphite with Teflon coating
- Fast heating digestion of food, biological samples, waste water, soil, industry, cosmetic, medicine, etc

### EHD36S

- Max. temperature 450°C
- Graphite heating material
- Power: 3000W
- Suitable for all wet digestion methods, especially for digestion in TN/TP determination.

# Specification

|            | Model  | Max. Power | Max. Temp | Temp. Accuracy | Sample Tubes | Digestion holes (DxH) | Heating Material                   | Dimensions(LxWxH) |
|------------|--------|------------|-----------|----------------|--------------|-----------------------|------------------------------------|-------------------|
| ED Series  | ED16   | 1300W      | 210°C     | ±0.2°C         | 16x100ml     | 44x50mm               | Aluminum alloy with Teflon coating | 390x380x197mm     |
|            | ED36   | 2000W      | 210°C     | ±0.2°C         | 36x50ml      | 31x50mm               | Aluminum alloy with Teflon coating | 455x445x197mm     |
|            | ED54   | 3000W      | 240°C     | ±1.0°C         | 54x50ml      | 31x50mm               | Graphite                           | 536x398x290mm     |
| EHD Series | EHD20  | 2800W      | 415°C     | ±1.0°C         | 20x100ml     | 44x50mm               | Graphite                           | 408x353x290mm     |
|            | EHD36  | 3000W      | 415°C     | ±1.0°C         | 36x50ml      | 31x50mm               | Graphite                           | 398x398x290mm     |
| S Series   | ED16S  | 1000W      | 210°C     | ±0.2°C         | 16x100ml     | 44x50mm               | Aluminum alloy with Teflon coating | 380x280x190mm     |
|            | ED36S  | 1400W      | 210°C     | ±0.2°C         | 36x50ml      | 31x50mm               | Aluminum alloy with Teflon coating | 420x420x190mm     |
|            | ED54S  | 3000W      | 210°C     | ±1.0°C         | 54x50ml      | 31x50mm               | Graphite with Teflon coating       | 536x398x290mm     |
|            | EHD36S | 3000W      | 450°C     | ±0.1°C         | 36x50ml      | 31x50mm               | Graphite                           | 538x442x198mm     |

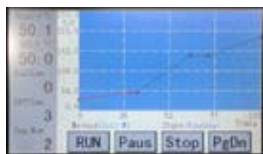
## iTouch Separate Terminal

Besides all the advantages provided by the stand alone configuration, LabTech i-Touch terminal offers all DigiBlock users the possibility to program and store sample digestion methods by programmable multipoint heating ramps and internal hard disk.

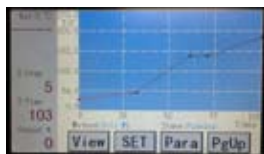
- 4.3 inch TFT screen
- Real-time display
- Adjustable heating speed
- Up to 14 steps heating ramps
- Category methods storage
- Easy and safe cable connection
- External temperature sensor (option)



## Operation Interface



Home Page 1



Home Page 2



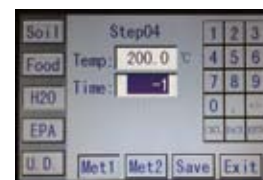
Method Selection Interface



Real-time Graph



Method Setup

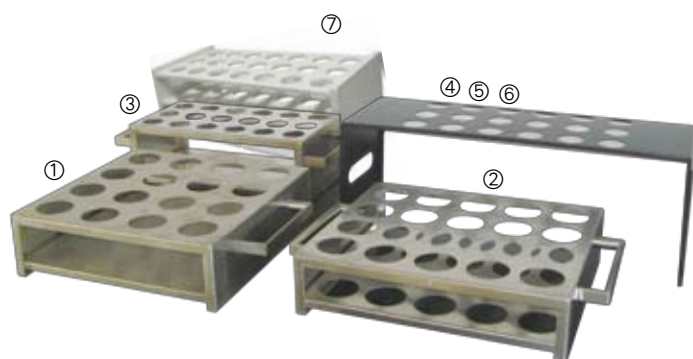


Method End Step Setting



# Accessories

## Racks and Vessels



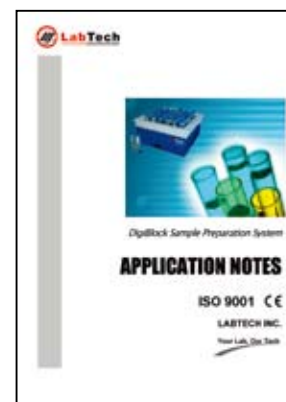
|       | Item | P/N     | Material        | Dimensions    | Diameter of Holes | Quantity of Holes |
|-------|------|---------|-----------------|---------------|-------------------|-------------------|
| Racks | ①    | BKS-16  | Stainless Steel | 330×270×80mm  | 44mm              | 16                |
|       | ②    | BKS-20  | Stainless Steel | 350×240×70mm  | 44mm              | 20                |
|       | ③    | BKS-36  | Stainless Steel | 340×150×100mm | 32mm              | 18                |
|       | ④    | BKT-36  | PTFE Coated     | 470×150×190mm | 32mm              | 18                |
|       | ⑤    | BKT-36S | PTFE Coated     | 440×150×130mm | 32mm              | 18                |
|       | ⑥    | BKT-54  | PTFE Coated     | 410×140×190mm | 32mm              | 18                |
|       | ⑦    | BKP-36  | PVC             | 366X150X134mm | 31mm              | 18                |

|         | Item | P/N     | Material | Max. Temp. | Height | Diameter | Rated Volume | Total Volume |
|---------|------|---------|----------|------------|--------|----------|--------------|--------------|
| Vessels | ①    | GC-16   | Glass    | 450°C      | 120mm  | 42mm     | 100mL        | 125mL        |
|         | ②    | GC-20   | Glass    | 450°C      | 165mm  | 42mm     | 100mL        | 175mL        |
|         | ③    | GC-20-K | Glass    | 450°C      | 300mm  | 42mm     | 250ML        | 325mL        |
|         | ④    | GC-36-L | Glass    | 450°C      | 155mm  | 30mm     | 50mL         | 75mL         |
|         | ⑤    | GC-36-S | Glass    | 450°C      | 130mm  | 30mm     | 50mL         | 68mL         |
|         | ⑥    | SC-36   | PP       | 130°C      | 105mm  | 30mm     | 50mL         | 68mL         |
|         | ⑦    | TF-16   | PTFE     | 210°C      | 120mm  | 42mm     | 100mL        | 130mL        |
|         | ⑧    | TF-20   | PTFE     | 210°C      | 165mm  | 42mm     | 100ml        | 165mL        |
|         | ⑨    | TF-36   | PTFE     | 210°C      | 134mm  | 30mm     | 50mL         | 68mL         |

## Application Notes

LabTech provides digiblock sample digestion notes in different fields to better support your application. Our experienced application engineers are ready to assist you anytime when you have questions on sample preparation.

- Environment
- Agriculture
- Food and feed
- Pharmacy and biochemistry
- Petrochemistry and Plastic
- Geology
- CDC
- ...





# AutoDigiBlock

LabTech AutoDigiBlock combines the advantages of digiblock digestion with the automated functions by LabTech-developed software workstation. It is designed to relieve the analyst from drudgery and monotonous repetition of routine tasks which happen in the digestion of a large quantity of samples and subsequent dilution/acid evaporation. Instead of completing the whole digestion process, the analyst just need to weigh and add properly samples to the digestion vessels, and set the automated digestion procedure with workstation, press Start and done. AutoDigiBlock will automatically and accurately perform all the repetitive processes including reagent adding, shaking well, heating, lifting up, cooling down, and keeping volume constant etc. At the end of the run, samples are treated and ready for the further analyses.

It features high efficiency, safety, stability and green.



## Technique Features

### Fully anti-corrosion design

- Fully PTFE operation platform
- Fully PFA liquid delivery systems
- FKM sealing system
- All parts which have the possibility of exposure to acids are PTFE processed

### Automated functions

- Automated reagent adding
- Automated vessel shaking
- Automated vessel lifting up/down
- Automated constant volume keeping
- Automated acid exhausting

### Intelligent warning functions

- High/Low temperature alarm
- Monitor residual acid in each channel and warning function
- Warning when waste liquid bottle is full
- Emergency stop

### Unique mechanical design

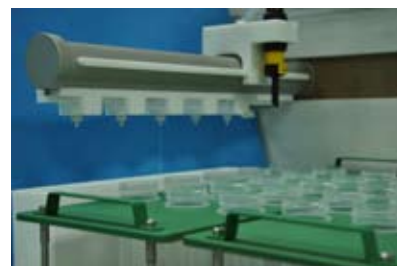
- Cross array of heating material plus PID control technique enables high uniformity of temperature  $\leq 1^{\circ}\text{C}@150^{\circ}\text{C}$
- Temperature stability  $\pm 0.1^{\circ}\text{C}$
- Dual module design ensures separate programming control
- Automated shaking of digestion vessels
- Controllable heating speed enables accurate control of digestion process
- PP and PTFE vessels and racks are comes with the system as standard
- Various clean, graduated digestion vessels no need pre-cleaning



Full anticorrosion design



Automatic shaking and lifting system



Automatic acid adding and cleaning



# Automated SamplePrep Station

## Automated Systems

### Reagent adding system

- High precision delivery pump ensures accurate acid adding
- Min. acid adding volume reaches to 0.2ml
- Up to 6 different reagent channels
- PFA delivery tubes support all reagents
- Self-clean function, clean times and amounts can be preset
- Acid adding speed is adjustable
- Natural pressure releasing device in waste acid drain system

### Lift up/down system

- Separate dual module design, the two modules can lift up/down independently
- Optical coupler protection design enables accurate control of lifting height
- Cooling time can be set freely

### Digestion vessel shaking system

- Separate dual module design, shaking of the two modules can be controlled independently
- Various shaking modes: adding sample, digestion, constant volume, cooling
- Controllable shaking speed
- Automatic reset after shaking

### Constant volume system

- Ultrasonic sensor ensures accurate volume control 10ml~50ml
- Constant volume precision 1% for more than 10ml reagent
- Standard curve calibration for ultrasonic sensor

### Fume removal system

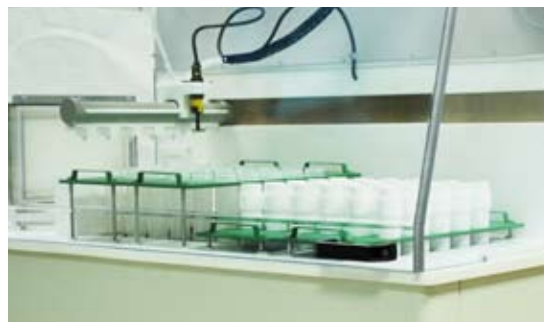
- Material polycarbonate
- Standard HEPA filtration system is safe and no contamination
- Filter net can be easily replaced
- Anticorrosion blower with adjustable flowrate



Peristaltic pump+PFA tubes



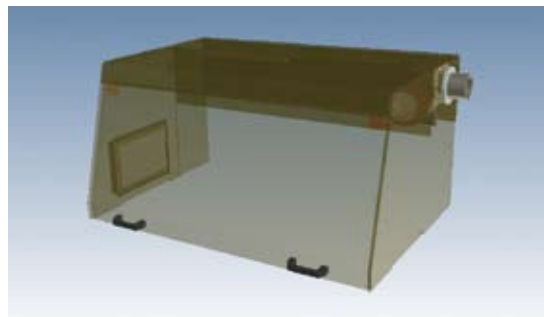
Acid collecting vessel tubes



Lift up/down system



Ultrasonic sensor

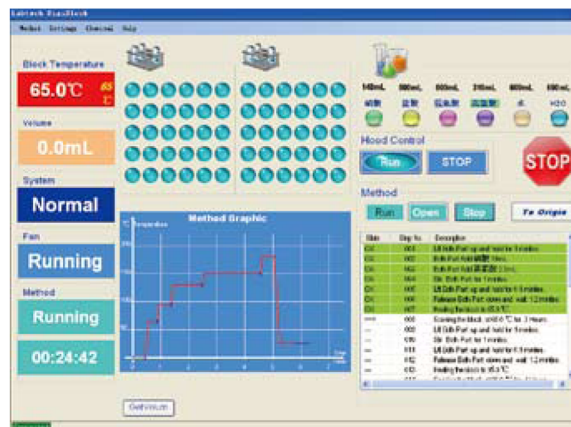


FumeHood

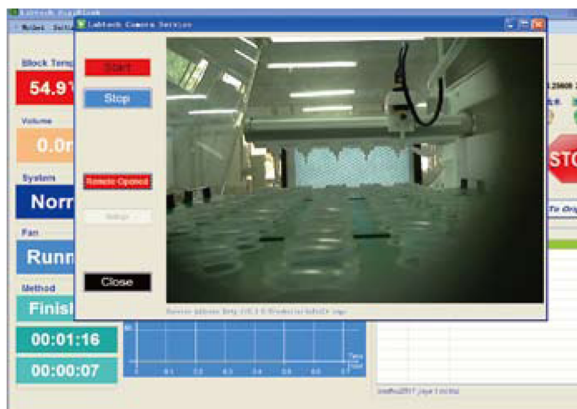


The system is connected to a PC which controls all functions seamlessly.

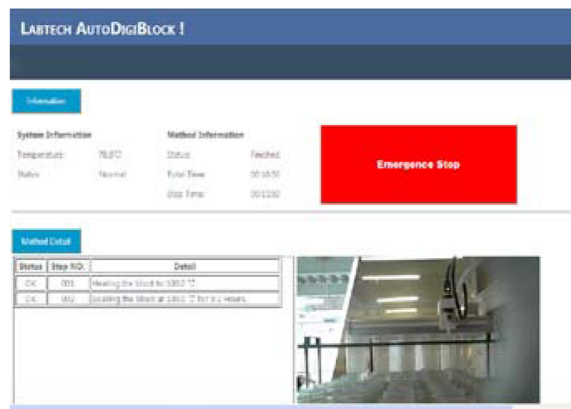
- EPA digestion methods come as standard
- Customized program function
- Real-time display the system running state
- Emergency stop key ensures a safe operation
- Automatic identify system state when switch on
- Wireless remote control and video functions are available for option



## Method Running Interface

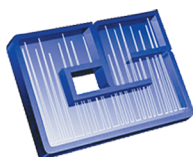


On-line viedo



## Remote Monitor and Control Interface

| Model                     | AutoDigiblock S30            | AutoDigiblock S60      |
|---------------------------|------------------------------|------------------------|
| Temperature control range | RT~230℃                      |                        |
| Temperature stability     | ±0.1℃                        |                        |
| Heating material          | Graphite with Teflon coating |                        |
| Heating power             | 1500W                        | 3000W                  |
| Modules                   | Single                       | Dual                   |
| Digestion well            | ∅ 31x40Dmm                   |                        |
| Temperature uniformity    | ≤±1℃@150℃                    |                        |
| Sample volume             | 50mlx30position              | 50mlx60position        |
| Rack                      | 1pc(30position)              | 4pcs (15position/each) |
| Reagent delivery channels | 6                            |                        |
| Volume control accuracy   | 1%                           |                        |
| Liquid delivery speed     | 2ml/s(Adjustable)            |                        |
| Liquid adding accuracy    | 1%                           |                        |
| Dimension                 | 670x610x655mm                | 985x658x810mm          |



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