SEAL Analytical

BD50 & BD28

BLOCK DIGESTION SYSTEM

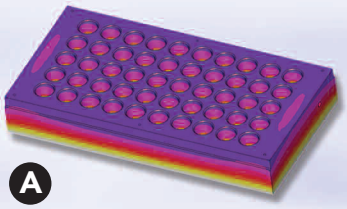
IMPROVED DIGESTION FOR BETTER ANALYSIS

IDEAL FOR

- Total Kjeldahl Nitrogen
- Total Phosphorus
- Metals
- Mercury
- C.O.D.
- and more digestions

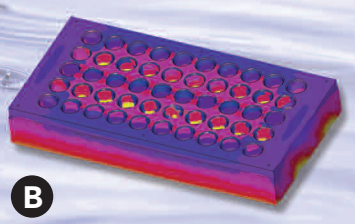
28 place block with digestion tubes in the heating position

50 place block with digestion tubes in the cooling position



A

The BD50s and BD28s unique flat plate heating design provides even heating leading to better quality digestions.



B

Common rod heating blocks have large temperature variations across the block resulting in poor, uneven digestions.

BD50 & BD28

BLOCK DIGESTION SYSTEM

BETTER PRODUCTIVITY

The BD50s and BD28s Programmable Digestion Systems perform acid digestion of large numbers of samples under controlled conditions and are available in two different formats:

- *28 place for 250ml digestion tubes*
- *50 place for both 75ml and 100ml digestion tubes*

Designed for durability and robustness, a BD50s/BD28s digestion system includes a block digestion unit, microprocessor controller, tube rack/draftshield, a set of digestion vessels and a cooling stand that supports the tube rack above the block.

If you are looking to automate your digestions, the BD50s and BD28s offers enhanced productivity, better quality digestions and increased safety.

MORE RELIABLE DIGESTIONS

The BD50s and BD28s Digestion Systems heat samples at a controlled rate, in the presence of one or more acids, to the required temperature then holds the samples at that temperature until digestion is complete.

The BD50s and BD28s unique flat plate design results in an even temperature distribution across the block and more precise temperature control. The temperature of each digestion position in the BD50s and BD28s is tightly regulated ensuring all samples in the batch are digested equally (diagram A).

Other block designs use a more common rod heater design that results in a greater temperature variation across the digestion block (diagram B).

The different colored zones shown on the BD50s and BD28s block illustrate the temperature isotherms across the block at 400° C. The excellent temperature stability of the BD50s and BD28s eliminates the need to move individual samples to a more "favorable position" during the digestion.

In addition, your digestion methods are stored electronically to provide reproducibility from batch-to-batch, operator-to-operator. You can store up to 20 programs, each with up to 30 steps, allowing you to automate the most complex digestion procedure.

SAFETY

Controlled heating rates, as low as 1°C per minute, protect against bumping and splattering of reactive samples. The BD50s and BD28s Controller senses power failures and will record the digest conditions and hold the digest to protect your samples. An in-built safety cut-out protects from overheating. The Controller is separate from the Block protecting the electronics and the operator from acid fumes.

ECONOMICAL

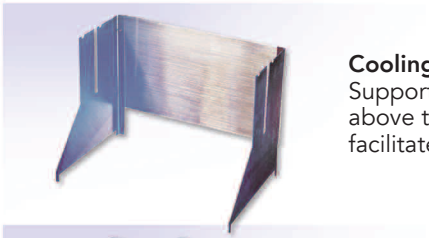
Apart from power and reagents, the BD50s and BD28s have no ongoing consumable costs and do not use any components with a limited service life.

The provision to program an elevated standby temperature for rapid start up enables you to process more batches per day. In addition, you can safely run a digest overnight so you have a full batch of digested samples ready for analysis at the beginning of each day. Automatic operation frees key laboratory personnel from the tedium of managing long digestion processes and provides an early start for analysis.

The BD50s and BD28s also have a small footprint to save you valuable fume hood space.

ACCESSORIES

Tube Rack / Draftshield
Enables all tubes to be easily transported and keeps the radiated heat around the tubes during digestion.



Cooling Stand
Supports the tube rack above the block to facilitate rapid cooling.

Digestion Tubes
Available in straight sided tubes or as volumetric tubes with a constricted neck and class "A" calibration mark.

Teardrop Stoppers
Captures and recondenses digest fumes reducing acid loss and preventing cross contamination.

Splash Head
For safe reagent addition during a digestion to 75ml, 100ml, 250ml digestion tubes.

Kjeldahl Digestion Granules
Non-selenized granules. High purity, white, amphoteric alundum and will not crumble or "powder" in digestion process.

SPECIFICATIONS

CAPACITY

BD50 - 50 x 75ml tubes or 50 x 100ml tubes
BD28 - 28 x 250ml tubes

SYSTEM CONFIGURATIONS

BD50s system (50 place) consists of a Heating Block, Programmable Controller and Tube rack/draftshield

BD28s system (28 place) consists of a Heating Block, Programmable Controller and Tube rack/draftshield

ACCESSORIES

4003035 Digestion tubes, glass, 75ml, straight (50pk)
4003005 Digestion tubes, glass, 75ml, volumetric (50pk)
4003036 Digestion tubes, glass, 100ml, straight (50pk)
4003006 Digestion tubes, glass, 100ml, volumetric (50pk)
4003031 Digestion tubes, glass, 250ml, straight (28pk)
4003001 Digestion tubes, glass, 250ml, volumetric (28pk)
5001241 Cooling stand for 28 place tube racks
5001511 Cooling stand for 50 place tube racks
8040703 Teardrop stoppers, glass (75/100ml tubes) for enhanced reflux (50pk)
8040704 Teardrop stoppers, glass (250ml tubes) for enhanced reflux (28pk)
DG-U-PO26 Splash-head, glass, for 75ml & 100ml tubes
8027565 Splash-head, glass, for 250ml tubes
5001231 Tube rack/draftshield, 28 place for 250ml tubes
8028114 Tube rack/draftshield, 50 place for 75ml or 100ml tubes
8032178 Kjeldahl digestion granule, 500g

POWER REQUIREMENTS

Block: 220-260VAC, 50/60 Hz, Controller: 100-260VAC, 50/60 Hz

OPERATION REQUIREMENTS

Digestion block must be operated in a fume hood.
Controller should be operated outside of fume hood.

FOOTPRINT

Block: 60 cm (23.5") W x 28 cm (11") D
Controller: 25 cm (10") W x 24 cm (9.5") D

TEMPERATURE RANGE

Ambient to 450°C

SET POINT ACCURACY

+/- 2° C

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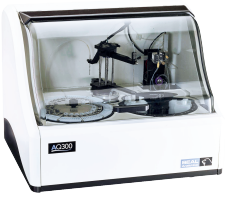
or contact your local SEAL Analytical representative about your specific application.

Colorimetric Nutrient Analyzers

DISCRETE ANALYZERS



AQ300

AQ400

AQ700

SEGMENTED FLOW ANALYZERS

AA100

AA500

QuAAtro39

50 Years of Experience in Environmental Analysis Built into Every Analyzer

50 years' experience in designing, developing and manufacturing automated wet chemistry analyzers specifically for very low detection levels in environmental applications has helped SEAL to apply the most useful, easy to use features into the SEAL range of Discrete and Segmented Flow analyzers. The SEAL analyzers are widely acknowledged as the best for environmental analysis, giving you everything you need to achieve equal or superior results to the manual and approved laboratory methods the SEAL analyzer replaces.

Digestion Systems

FOR METALS AND TKN, TP DIGESTION

BD50

DEENA

SEAL Analyzers are monitoring environmental samples in every corner of the globe. They are manufactured in the USA, Germany and the Netherlands. Engineering and chemistry support is provided from SEAL global facilities in USA, Germany, UK, the Netherlands and China along with a worldwide network of specialist distributors.

COMPREHENSIVE SUPPORT

We offer comprehensive applications, technical service and software support.

INCLUDING

- A choice of preventative maintenance and service contracts to meet your specific requirements
- In-house and online training
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- Adaptation of methods to specific requirements such as matrix, range or detection limit
- Continuous in-house development of software to incorporate new customer requested features

Robotic Handling Systems

SEAL Robotic MiniLab systems for automating sample pretreatment in the laboratory — improving your sample handling efficiency. Typical applications include BOD, pH, COD, Alkalinity, and conductivity measurements with options such as decapping/capping, sample splitting, and filtration. Call us about your laboratory needs and we will design a robot to suit you.

SEAL MiniLab

SEAL Analytical

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