



SEAL
Analytical



BD50 & BD28

BLOCK DIGESTION SYSTEM

**IMPROVED DIGESTION
FOR BETTER ANALYSIS**

TKN Total Nitrogen
TKP Total Phosphorous
Metals

IDEAL FOR

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



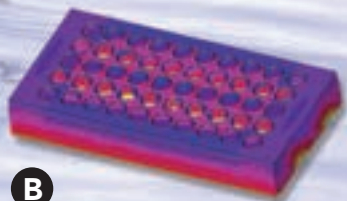
28 place block with digestion tubes in the heating position



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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Robotic Handling Systems

SEAL Robotic Minilab systems for automating sample (pre) treatment 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 1200

Digestion Systems

FOR METALS AND TKN, TP DIGESTION



BD50



SmartBlock II



DEENA 3

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