

PRO DPS-20 Multi-Sample Dual Processing Homogenizing System

A Labor Saving Homogenizing Product in the Standard Operating Procedure for Chlorophyll-A Determination

Recommended by such agencies as;

St. Johns River Water Management District & South Florida Water Management District



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 Homogenizing

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PRO DPS-20 Multi-Sample Dual Processing Homogenizing System:

A Recommended Product in the Standard Operating Procedure for Chlorophyll-A Determination

PRO Scientific's DPS-20 is an ideal alternative to the hand mechanical homogenizing and/or hand sonication of filters as part of the Chlorophyll analysis preparation.

The DPS-20 provides an automated controlled system for macerating or sonicating (or both).

ADVANTAGES

- Every sample is processed exactly the same.
 - Human variability is eliminated.
- Samples are processed in about one minute each.
- Tech time can be freed up while the DPS-20 is automatically processing a tray of samples.
 - Many labs have multiple carousel trays ready to load upon completion of a run.
- Specific programs can be easily repeated and recalled.



Any lab doing 20+ samples a week is a great candidate to automate this valuable but repetitive and time consuming step.

Labor efficiencies may quickly offset any cost to purchase the DPS-20.



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Current procedures using the DPS-20

Mechanical Homogenizing / Macerating Only

Whatman GF/C 42.5mm diameter glass microfiber filters are folded three times (The first fold is a half, the second fold is a half in the same direction and the third fold is about a 33% fold in the opposite direction). The tails are inserted upward and the crease is pointed downward.

Samples are placed in into a 15ml transport vial (17mm X 100mm, round-bottom, free-standing) which is recommended for use with the generator.

Vials are placed in the 15ml cooling carousel tray (p/n 72-00150).

The custom 7x120mm PRO 316SS Generator Probe (p/n 72-07120ET) is recommended as it is specifically produced with more aggressive teeth and a longer shaft which helps in the maceration process by grabbing the filter better.

The RPM's for the generator are set at 16000rpm.

Trays are run through 1 or 2 cycles of 20 to 40 seconds per sample with 10 samples per tray and a 5 second DI rinse between each sample (Multi bath) .

Ultrasonic Homogenizing / Sonication Only

Important pretreatment step – bring to volume ~ 2 – 24 hr prior to sonication

Samples are placed into a 15ml transport vial (17mm X 100mm, round-bottom, free-standing) which is recommended for use with the generator.

Standard 3mm Ultrasonic Probe (p/n 72-00422) is used.

Vials are placed in the 15ml cooling carousel tray (p/n 72-00150).

Sonicate at 50% power and for 40 seconds.

Process 18 samples per tray and use the one rinse tube between samples.



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Additional application notes

Two concerns with Acetone is vapors with the equipment and compatibility with the tube.

Some plastics are 100% compatible with acetone. Ethylene propylene and polymethylpentene are 100% compatible with acetone.

The DPS-20 uses a brushless motor opposed to a brush type motor (standard homogenizing units). Brush type motors would be unsafe to use flammable liquids.