RNAS REMEDIATION PRODUCTS
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Bioaugmentation Microdosing Kit

The Bioaugmentation Microdosing Kit provides the tools to dispense bioaugmentation culture from culture kegs and to accurately measure both the volume and the mass of culture used. Bioaugmentation cultures like SDC-9 or TCA-20 are shipped with a simple measuring tube system that arrives with the keg and cooler to roughly measure culture by volume. Measuring small volumes accurately with this basic system is difficult. The standard equipment shipped with the keg and cooler does not include an inert gas regulator that is needed to dispense culture from the keg or an electronic scale to accurately weigh the culture keg to track the mass of culture dispensed from the keg.

The Kit Includes:

- Microdosing Valve Box & Measuring Tube
- CGA 580 2-stage regulator
- Electronic Scale
- All Tubing and Connectors
- Protective Pelican Case
- Fittings Kit

Microdosing System

Accurately measuring small volumes of culture is important, especially when doing top-down direct push injections with smaller volumes of injection fluid at each elevation. The Microdosing system uses a two-position, six-port valve, and an on/off gas supply valve to fill and empty a measuring tube. The valves and tubing have a low dead volume and allow for measuring 25 ml increments of culture by volume.

Basic Culture Dispensing Equipment

Bioaugmentation culture is shipped in 5-gallon kegs (about 19 liters) and dispensed with low pressure, oxygen free gases such as nitrogen or argon. Our kit includes a two-stage inert gas regulator with a low-pressure gauge that is ideal for controlling the inert gas pressure. Clients need to provide a tank of inert nitrogen or argon gas. All fittings and tubing are included.

Culture Mass Measurement

The digital scale can accurately weigh up to 50 kilos with a 2-gram or less (about 2 ml) resolution. The scale is field rugged which allows the keg weight to be accurately determined when received and then weighed after each culture dispensing event to track the mass dispensed into each injection location. Tracking the total mass of culture dispensed allows you to know the mass of culture remaining in the keg. Nothing is more frustrat-ing than running out of culture before the last injection location and tracking the mass dispensed will make sure this never happens on your project!

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Instructions for Use

Setup

Connect tubing to Gas Supply, SDC-9 keg and Injection Point (4 points). Set Main Valve to Purge Mode and Liquid Valve to Open. Open Gas Tank and set Regulator to 5-10 psi. Open Gas stopcock and purge system with Inert Gas for 2 to 3 minutes. Zero the digital scale and record the weight of the full keg before dispensing culture.

Filling

Set Cylinder Fill Valve to Closed, then set Main Valve to Fill. To begin filling the dosing cylinder set Cylinder Fill Valve to Open. When desired volume is reached, set Cylinder Fill Valve to Closed.

Injecting

After filling the measuring tube to the desired culture volume, you are ready to inject. Set Main Valve to Inject Mode to deliver SDC-9 to the injection point. Zero the digital scale and record the weight of the keg after dispensing the culture.

Cleaning

To purge residual culture from the system after completing injections for the day set Main Valve to Purge Mode and Purge system for 2 to 3 minutes, set Liquid Fill Valve to Closed, shut Gas Supply Tank. Before returning the system to RNAS please fill the empty keg with clean water and run multiple fill/inject cycles to rinse the system.