TRAJAN

Instructions for the gas and vapor sampler GAV-200 MK II

Introduction

Please take time to read carefully these instructions to ensure trouble-free operation of the GAV-200.

The GAV-200 is suitable for use where the analysis of environmental gas samples or low pressure gas streams is required. Samples may be collected into the sample bag and stored for later analysis.

The GAV-200 facilitates the collection of samples either at ambient pressure or at a reduced pressure relative to ambient. The sample may then be discharged, at a higher precisely controlled pressure, into a syringe or a gas sampling valve system.

The gas sampling bags consist of three laminated layers, an inert polyethylene liner, an impervious aluminum layer to prevent diffusion of gases through the bag and a tough polyester outer coating.

Important

⚠ **Caution**

The maximum canister pressure is 50 psi (350 kPa). The maximum allowable pressure differential across the sampling bag is 5 psi (35 kPa). A pressure differential greater than 5 psi on the bag will cause failure of the bag.

Packing list

GAV-200 MK II, canister assembly including valve and fittings, PK1
GAV-B, aspirator bulb with coupling tubing, PK1
GAV-200 MK II, resealable sample bags*, PK10
BN/16, 1/16" nut, PK2
PSR/16, poly sealing rings (PK10), PK1
3 m, 1/16" 0.8 mm ID stainless steel tubing
Instructions
3.2 TCS septa (PK10), PK1
Marker pen
1/4"-5/16" AF spanner

** Includes fitted septum.*

Instructions

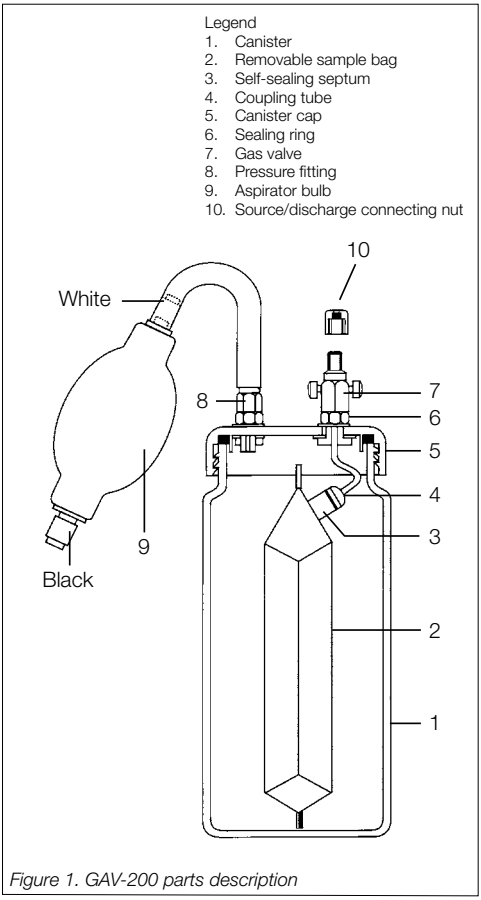

Figure 1. GAV-200 parts description

- Check the enclosed contents against the packing list.
- Unscrew the canister cap (5) from the canister body. Ensure the sampling bag (2) is totally flattened and excess air is removed from the bag.
- Carefully push the coupling tube (4) through the bag septum (3).
- This may take a firm push to pierce the septum the first time.
- Guide the sample bag into the canister and screw down the canister cap, ensuring the bag is not pinched by the cap.

- To further ensure the bag does not contain air, the canister may be pressurized at this stage, while the valve (7) is open.
- To open valve, push **WHITE** button.
- To close valve, push **BLACK** button.
- When the canister has been pressurized close the valve and the pressure may be removed from the canister.

In general the GAV-200 system should only be used for taking samples limited to a pressure not more than 5 psi above ambient pressure.

Connect the sample source to the valve (7). If possible the sample line should be 1/16".
A 1/16" line can be connected directly into the valve (7), on the canister cap. Use a PSR/16 sealing ring (supplied) with nut (10).

Apply sample pressure to the sample line. Ensure the pressure fitting is unobstructed and open the valve (7) by pushing the white button. Even with low sample pressures the bag should fill within a few seconds.

Close the valve by pushing the black button and then disconnect the canister from the sample source. The sample is now held in the sample bag.

Sampling from a high pressure source

When the sample source pressure is more than 5 psi above ambient pressure, care must be taken not to rupture the sample bag.

The sample source line may be restricted to slow the rate of filling of the bag, but this will not limit the ultimate pressure reached in the bag. The time that the bag is allowed to fill should be limited to prevent over pressurization of the sample bag.

Sampling from a low pressure source

When the sample to be taken is at or below ambient pressure it is necessary to apply a vacuum to the canister.

Connect the **BLACK** end of the rubber pump bulb (9) to the pressure fitting. With the sample source connected to the valve (7), open the valve by pushing the **WHITE** button and pump on the bulb. When no more gas from the canister can be heard exiting the bulb and sufficient time for the sample to fill the bag has been allowed, close the valve by pushing the **BLACK** button.

As an alternative to the bulb pump, other vacuum pumps may be used.

Sample storage

Alternatively, you may wish to retain the sample for use at a later time and continue collecting more samples.

Ensuring that the black button is closed, open the canister and remove the sample bag. The self sealing septa will provide sealing until the sample is required. A marker pen is provided to label the used sample bag.

Another sample bag may be installed as per the instructions given, allowing a new sample to be collected.

Sample transfer

The canister valve (7) may be now connected to the device to which the sample is to be transferred, such as a gas sampling valve, or even a syringe.

For use with a syringe, a septum (3.2 TCS - supplied) may be used in the nut (10). The syringe needle may then be inserted through the septum.

For simple transfer of the sample from the sampling bag, the **WHITE** end of the rubber bulb pump should be fitted onto the pressure fitting (8) on the canister cap. Ten pumps on the bulb will pressurize the canister and then the valve may be opened by pushing the **WHITE** button. Providing the back pressure on the device to which the sample is being transported is less than the pressure in the canister, the sample will flow from the sampling bag.

Where it is necessary to transfer the sample at a constant and known pressure throughout the process, it is recommended that a pressure regulated source of air is applied to the pressure fitting (8). The sample will then be at the same pressure as applied to the canister by the regulated source, throughout the transfer process, until the bag is empty.

Information and support

Visit www.trajanscimed.com or contact techsupport@trajanscimed.com

Specifications are subject to change without notice.