



Technical Support Note

Title: Water Trap Field Test

TSN Number: 35

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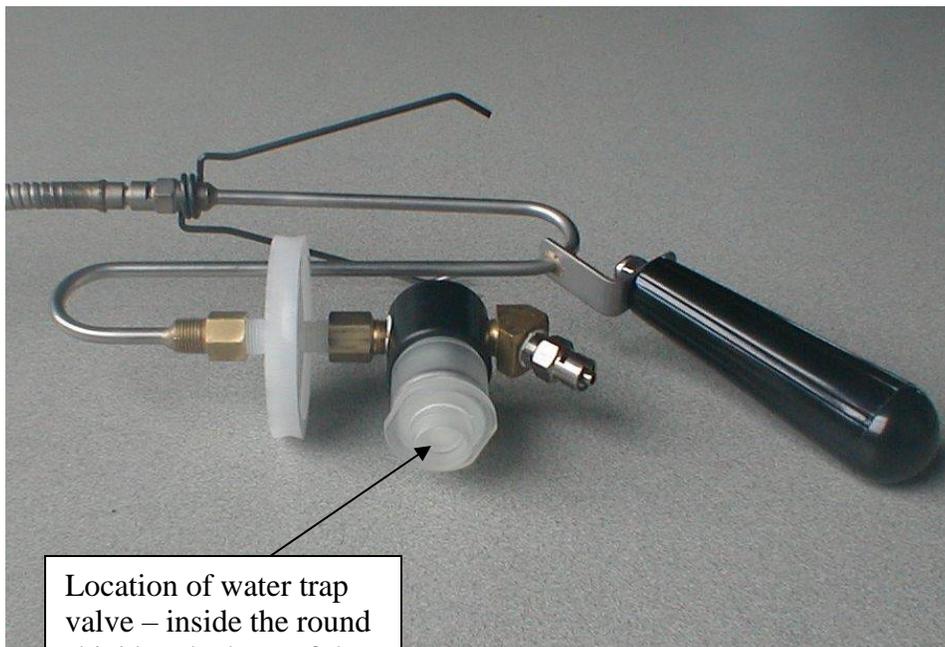
Created by: R. Schrader

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Overview:

The purpose of this document is to provide a method to verify that the EGA probe water trap valve is not leaking air and causing exhaust gas air dilution. It is particularly important to verify water trap valve seal on 2-Gas analyzers (900303 or 900323), as these analyzers do not have an oxygen measurement channel, that can be used to test for excessive air leaks.

Water Trap Valve – its location and purpose:



Location of water trap valve – inside the round shield at the base of the water trap.

The water trap valve is located at the base of the water trap – and is used to expel condensate from the water trap automatically whenever a Zero is commanded. This is a one-way ‘umbrella’ valve, which is a low pressure release valve that normally operates under a low vacuum during operation. It is protected from contamination by the 50 mm

Bridge Analyzers, Inc.
5198 Richmond Road
Bedford Heights, Ohio 44146 USA

(510) 337-1605 office
(216) 274-9262 fax
sales@bridgeanalyzers.com



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primary probe filter and further protected by a felt filter at the bottom of the water trap. The valve is intended to operate in the presence of condensate, which also improves the seal of the valve during operation. If it is not sealing properly, air can leak through the valve into the water trap and dilute the exhaust gas sample.

Water Trap Valve – field test to ensure seal:

The field test to ensure that the water trap valve is sealing correctly is simple to apply. Simply cover the base of the water trap with your thumb during operation and note if the exhaust gas readings increase in a few seconds. (For a 4 or 5 gas EGA, note if the oxygen readings reduce at the same time.) If these symptoms are seen, the water trap valve is leaking air.

Water Trap Valve – Correcting a Leak:

A leaking water trap valve can be corrected by the following procedure:

1. Remove the water bowl from the water trap. Check the water bowl seal by placing the open end against your lips and sucking against it. It should hold a tight seal.
2. If it does not, inspect the valve to see if it is contaminated. The valve is a transparent flexible membrane, so contamination can readily be seen. If the valve is contaminated, use isopropyl alcohol to wipe the exterior clean and clean the valve/base interface (lifting it with a toothpick or the equivalent).
3. If the water trap valve still leaks, try flushing it with water. Fill the water bowl and blow the water out through the valve by placing the open end up to your mouth and blowing through it. Do this several times if necessary to completely flush the valve.
4. When a tight seal is established (holds a vacuum), install the water trap bowl back on the water trap – being sure to tighten it securely against its sealing O-Ring at the base of the upper housing.
5. Repeat the ‘Thumb Test’ again to ensure the integrity of the water trap seal.
6. When complete – also check the cleanliness of the 50mm primary filter to make sure it is adequate to protect the water trap valve against further contamination.

Valveless Water Trap Option - with Manual Emptying:

Bridge also has a water bowl without the water trap valve installed – for those seeking a secure method to ensure against air leaks, and willing to manually empty condensate from the water trap during and after use.

The valveless water bowl is part number 001519. It is available upon request from Bridge. Contact Bridge for pricing and availability.

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