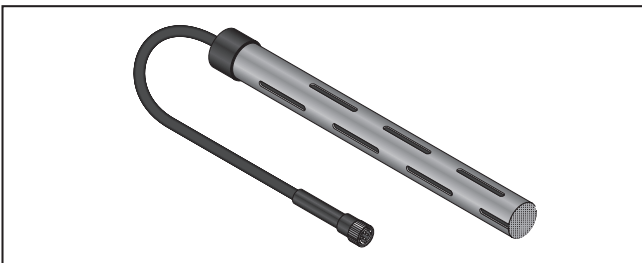




RAYCHEM
TraceTek

TT-FFS Fast Fuel Detection Sensor

Care and Cleaning Instructions



DESCRIPTION

Use these instructions when a nVent RAYCHEM TraceTek Fast Fuel Sensor (FFS) has been exposed to dirt, mud, sand and after leak detection events with heavier fuels such as jet fuel, diesel or fuel oil.

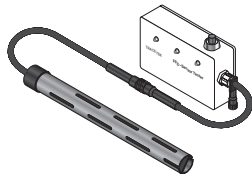
CAUTION:

Potential electrostatic discharge hazard – do not rub with a dry cloth.

1

Test the FFS

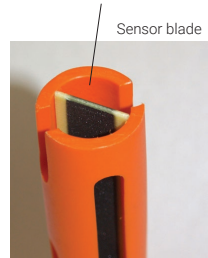
- Determine the condition of FFS sensor blade coating.
- Use the nVent RAYCHEM TraceTek TT-FFS Tester to determine the current condition of the FFS. Refer to Test Device for TT-FFS Sensor Operating Instructions document H58496 for testing procedure details
- Possible FFS conditions include:
 - Sensor in Alarm- signified by LED single flash each second after FFS is initially connected.
 - Sensor is Damaged (internal wire damage or connector damage)- signified by no LED flashing when FFS is initially connected, and no LED single flash each second after red test button is pushed.
 - Sensor is Good- signified by no LED flashing when FFS is initially connected, but LED single flash each second after red test button is pushed.
- If FFS condition is Good, there is no need for cleaning procedure unless desired for cosmetic reasons.
- If FFS condition is Damaged, sensor should be replaced due to damage. Cleaning procedures will not fix the damage.
- If FFS condition is in Alarm , cleaning procedures can be implemented to achieve reset, which may recreate the Good condition.



2

Inspect the Sensor Blade Coating

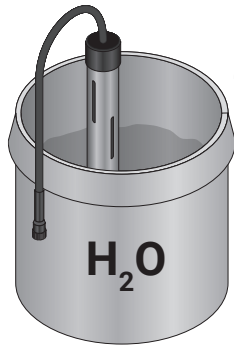
- If the Extreme Environment Cover (EEC) has been installed on the FFS, remove it carefully before performing inspection. Refer to TT-FFS EEC Installation Instructions document H58519.
- Visually inspect the sensor blade coating, but do not touch it. A flashlight may be useful to shine through the steel screen and through openings in the side of the orange tube to help see the sensor blade coating. A sensor blade in good condition will have a uniform gray or black coating like the photo on the right, and may be able to reset to Good condition with cleaning procedures.
- A sensor with a scratched or damaged film like that in the picture on the right may need to be replaced. Cleaning procedures may be attempted, but are unlikely to result in a reset to Good condition.
- **(Note:** Protective steel screen has been removed for clarity in these photos).
- If contamination (dirt, mud, sand) prevents visual inspection of the sensor blade coating, then proceed with water cleaning step.



3

Clean with Water

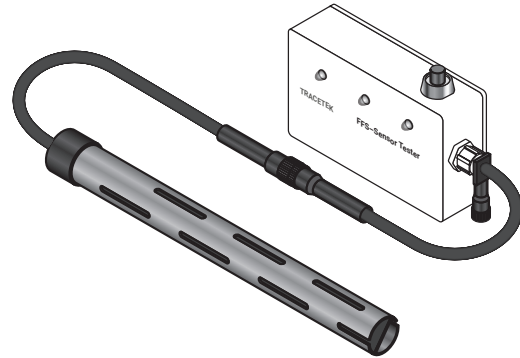
- Do not remove the protective steel mesh screen at the bottom end of the FFS. Place sufficient water in a small container and soak the full length of the FFS for 15 minutes. Maximum fluid level is ½ inch below black cap. Make sure FFS wiring stays high and dry.
- DO NOT SHAKE OR STIR! If physical contamination like dirt, mud or sand is present-care must be taken to avoid degrading the sensor blade coating. Very gentle cleaning of exterior orange surface of FFS can be performed, taking care not to push contamination through the openings in the orange tube and onto the sensor blade coating.
- Do not use compressed or heated air. If contamination is still present inside the orange tube and on surface of sensor blade coating, then you must be very careful to avoid damaging the coating. Do not use tools to remove contamination.
- After soaking in water, let dry in air for 20 minutes.



4

Retest the FFS

- Retest FFS Sensor condition to see if it has changed. If Alarm condition has been reset to Good condition, then further cleaning steps are not recommended. If Alarm condition still exists, re-inspect sensor blade coating for possible damage.



5

Clean with Isopropyl Alcohol and Retest

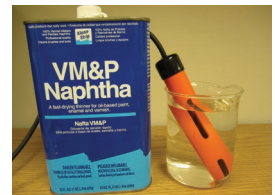
- If the FFS is still in Alarm condition, or visual inspection of the sensor blade coating suggests possible contamination with an oily material, then perform the isopropyl alcohol cleaning procedure to potentially achieve reset.
- Place sufficient isopropyl alcohol in a small container and soak the full length of the FFS for 10 minutes. Maximum fluid level is ½ inch below black cap. Make sure FFS wiring stays high and dry.
- DO NOT SHAKE OR STIR! The sensor blade coating is extremely fragile when soaking in isopropyl alcohol. The idea is to dilute any fuel trapped in the sensor blade coating without damaging the thin sensor blade coating.
- Do not use compressed or heated air.
- After soaking in isopropyl alcohol, let dry in air for 1 hour.
- Retest FFS condition to see if it has been reset from Alarm condition to Good.
- If the FFS has not reset after 1st isopropyl alcohol cleaning cycle, you can try up to 3 cycles total of isopropyl alcohol cleaning, taking care to use fresh solution of isopropyl alcohol in each cleaning cycle.



6

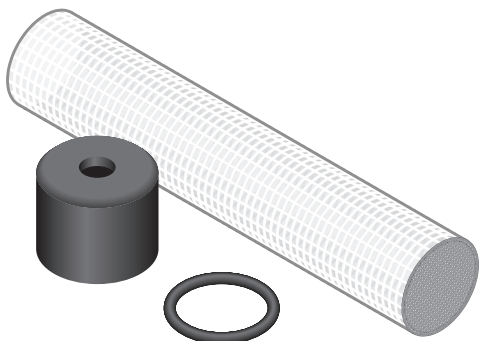
Clean with Naptha and Retest

- If the FFS is still in Alarm condition after up to 3 cycles of isopropyl alcohol cleaning, then perform the naptha cleaning procedure to potentially achieve reset.
- Place sufficient naptha in a small container and soak the full length of the FFS for 10 minutes. Maximum fluid level is ½ inch below black cap. Make sure FFS wiring stays high and dry.
- DO NOT SHAKE OR STIR! The sensor blade coating is extremely fragile when soaking in naptha. The idea is to dilute any heavy oil trapped in the sensor blade coating without damaging the thin sensor blade coating.
- Do not use compressed or heated air.
- After soaking in naptha, let dry in air for 1 hour.
- Retest FFS condition to see if it has been reset from Alarm condition to Good.
- If the FFS has not reset after 1st naptha cleaning cycle, you can try one additional cycle of isopropyl alcohol cleaning to remove excess naptha from the sensor blade coating. Retest FFS condition to see if it has been reset from Alarm condition to Good. If the FFS is still in Alarm condition, it cannot be reset with cleaning procedures, and needs to be replaced.



Reinstall EEC

- If FFS has been reset from Alarm condition to Good, the FFS is ready for re-use. Install EEC if removed in step 2. Refer to TT-FFS EEC Installation Instructions document H58519.

**TT-FFS-EEC-100**

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