



**TELEDYNE
INSTRUMENTS**

Advanced Pollution Instrumentation

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Service Note

**97-027 Rev B
2 May, 2007**

MAINTENANCE INSTRUCTIONS FOR DANI TNMH 451

SCOPE:

To guide you successfully through the various maintenance procedures of the DANI TNMH 451.

MATERIALS REQUIRED:

Pump rebuild kit
Filter element (47mm Teflon)
Filter element (sintered filter)
Scrubber material (hopcalite)
Tie wraps

TOOLS REQUIRED:

Phillips screwdriver
3 mm Allen wrench
2.5 mm Allen wrench
Needle-nose pliers
Scribe or small tweezers

PROCEDURE:

Sample Pump

- Label pump lines and remove from pump and 2 electric wires. Using a Phillips screwdriver, remove the 3 screws holding the pump onto the stand-offs through the top of the pump.
- Notice the orientation of the outlets on the pump head before removing the head from the pump body.
- Using a 3mm Allen wrench, remove the screws from the top of the pump and remove the pump head from the body of the motor. (Don't disassemble the pump head unless the pump has already been rebuilt and an adequate flow can't be obtained.)
- Using a 2.5mm Allen wrench, remove the screw from the center of the pump diaphragm and pull the diaphragm off of the pump.
- Replace the pump diaphragm and reassemble the pump in reverse order.
- Reinstall the pump in the reverse order of removal.

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Particulate Filter on Front of Instrument (47mm Teflon Filter, on front panel)

- Remove the gray ring from the unit by turning counter clockwise.
- Remove the plastic window from the filter, being careful not to damage the o-ring behind the window.
- Inspect the o-ring and reuse it if it is not torn or pinched.
- Using needle-nose pliers, remove the metal clip holding the filter element to the filter housing.
- Replace the filter element and put the metal clip back into the filter housing.
- Put the o-ring into the groove on the filter housing and hold the plastic window onto the housing.
- Put your finger through the gray ring and hold the window onto the filter housing and screw the gray ring on with the other hand.

Particulate Filter on Rear of Instrument (47mm Teflon Filter, on rear panel)

- Remove the two thumbscrews from the filter housing and separate the upper and lower filter housing.
- Remove the filter and the o-ring from the filter housing, being careful not to damage the o-ring.
- Inspect the o-ring and reuse it if it is not torn or pinched.
- Place the filter element and o-ring into the filter housing.
- Place the upper filter housing back onto the lower housing being careful not to pinch the o-ring.
- Replace the two thumbscrews onto the filter housing, making them snug but not too tight.

Sintered Filter Element (5 Inch Filter)

- Cut the plastic tie-wraps that are holding the filter to the valve assembly.
- Remove the 1.6 mm stainless steel tubing from each end of the filter element.
- Screw the 1.5 mm fittings into the new filter element and tighten.
- Replace the plastic tie-wraps.

Sintered Filter Element (1 Inch Filter)

- Remove the 1.6 mm line from the rear of the filter body.
- Remove the filter body from the brass "T".
- Remove the rear fitting from the filter body.
- Remove the o-ring and sintered filter from the filter body with a scribe or small tweezers.
- Replace the filter and o-ring and reassemble the unit in the reverse order.

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Scrubber Material

- Disconnect all tubing and electrical connections from rear of unit.
- Remove the 1.6 mm tubing from the end of the scrubber.
- Remove the knurled fitting from the end of the scrubber. (Pliers might need to be used to remove the knurled fitting, but DO NOT use the pliers to re-install the knurled fitting.)
- Turn the unit onto the right side to allow the scrubber material to fall out of the scrubber. (You might need to use an 8-inch screwdriver to ensure all of the material is out of the scrubber, being careful not to puncture the tubing.)
- Turn the unit onto the left side and fill the scrubber with new scrubber material. Tap on the side of the scrubber with your screwdriver to settle the material. Don't pack the material with the screwdriver.
- Replace the knurled fitting onto the scrubber and tighten by hand.
- Replace the 1.6 mm fitting onto the knurled fitting.

