



**01-002C  
2 May, 2007**

**REPLACING THE SAMPLE AND PRESSURE PUMPS IN THE M401 CALIBRATOR**

**I. PURPOSE:**

This service note provides instructions for replacing the ASF pump with a KNF pump as the sample pump in the M401 Ozone calibrator. Since the KNF pump can be rebuilt, this pump will last far longer than the ASF pump resulting in decreased maintenance time and cost for the Teledyne API M401 calibrator. The KNF pump includes a mounting bracket which mounts to the same chassis holes as the old ASF pump making replacement fast and easy. This service note also provides instructions for replacing the ASF pump with a KNF pump as the pressure pump. The advantages of replacing the pressure pump are similar to the ones listed for the sample pump. This service note applies to replacement of the sample pump in the Teledyne API Model 401. It also applies to replacing the pressure pump in the Teledyne API Model 401. This note can be used to change either or both pumps.

**NOTE: This service note will only apply to M401 calibrators where the pumps are on individual brackets. If your M401 is older it may have both pumps on a single bracket. If your M401 has a single bracket you should contact Teledyne API customer service (see bottom of this note) for further instruction prior to ordering parts or attempting to install. In single bracket applications, replacement of both pumps may be required.**

**II. TOOLS:**

Phillips head screw driver  
Flat tip screwdriver  
9/16" wrench

**III. PARTS:**

Replacement KNF pump for sample. Teledyne API PN#03466-0000  
Replacement KNF pump for pressure. Teledyne API PN#03707-0000

**IV. PROCEDURE:**

**A. Replacing the sample pump:**

1. Remove power to analyzer.
2. Remove cover from analyzer.
3. Locate pump assemblies. The pump on the right (as you are looking at the front of the analyzer) is the sample pump.
4. Disconnect the power cable from the pump.
5. Mark the two tubes connecting to the pump so you can identify them later. Disconnect the tubes from the inlet and outlet of the pump (note, one tube connects to the flow control block. Disconnect the tube from the flow control block, leaving the block attached to the pump, as the new pump will have its own flow control block).
6. Remove the bracket from the analyzer by turning the analyzer on its side and removing the screws (Caution: hold the pump while you are removing the screws to keep it from dropping out and damaging other components in the analyzer).

7. Install the new pump by positioning the bracket above the mounting holes and installing the screws.
8. Turn the analyzer right-side-up and connect the two tubes you removed in step 5.
9. Connect the power to the pump.

**B. Replacing the pressure pump:**

1. Remove power to analyzer.
2. Remove cover from analyzer.
3. Locate pump assemblies. The pump on the left (as you are looking at the front of the analyzer) is the pressure pump.
4. Disconnect the power cable from the pump.
5. Mark the two tubes connecting to the pump so you can identify them later. Disconnect the tubes from the inlet and outlet of the pump .
6. Remove the bracket from the analyzer by turning the analyzer on its side and removing the screws (Caution: hold the pump while you are removing the screws to keep it from dropping out and damaging other components in the analyzer).
7. Install the new pump by positioning the bracket above the mounting holes and installing the screws.
8. Turn the analyzer right-side-up and connect the two tubes you removed in step 5.
9. Connect the power from the pump.