

Installing a Vortex Sample Conditioning Block

Overview

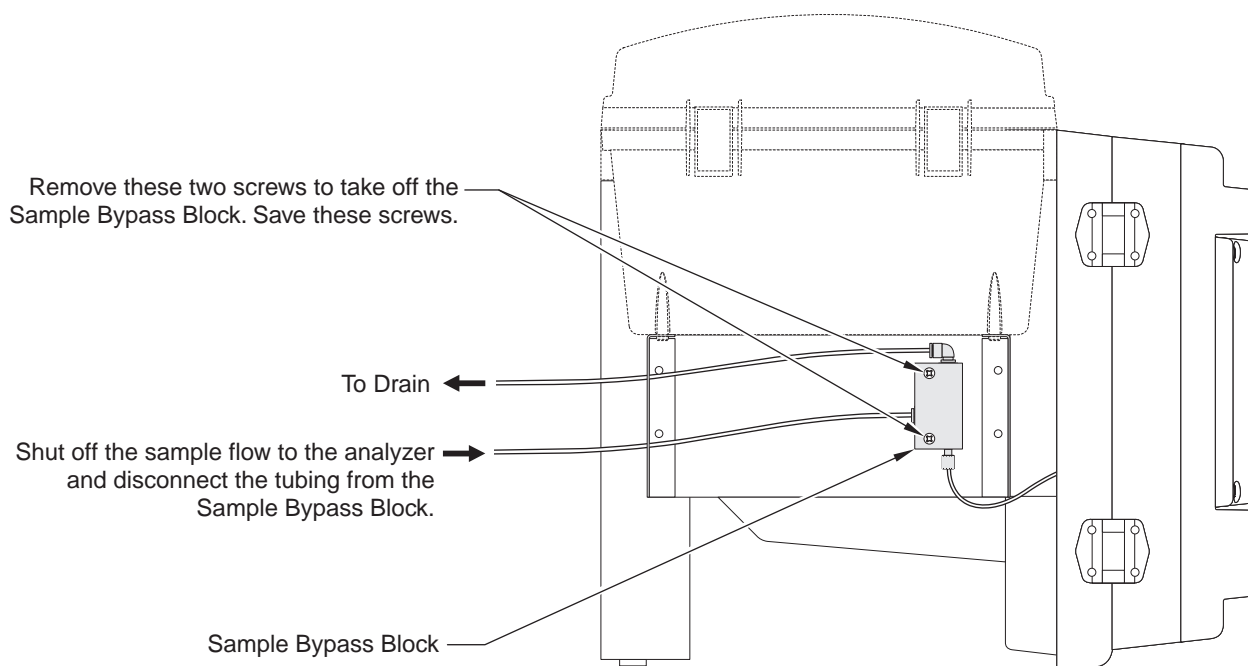
The vortex sample conditioning block is designed to replace the sample bypass block on the APA 6000™ Analyzer, to provide filtration to 0.5 µm. The new sample conditioning block bolts onto the outer left side of the analyzer in place of the original sample bypass block. Only qualified personnel should install the IC chip as described in this instruction sheet.

Also included in this kit is the new APA 6000 Installation and Maintenance Manual and a parameter specific manual. The Installation and Maintenance Manual provides information regarding sample conditioning and changes to the software. The parameter specific manual contains information related to parameter specific instrument components and functions.

Installing the Vortex Sample Conditioning on the APA 6000 Analyzer

1. Place the analyzer in standby mode.
2. Shut off sample flow to the analyzer.
3. Remove the sample bypass block from the outer left side of the analyzer by removing the two #6 phillips-head screws (see [Figure 1](#)).
4. Disconnect the ¼ in. tubing from the sample bypass block, as well as the smaller line feeding sample to the analyzer.

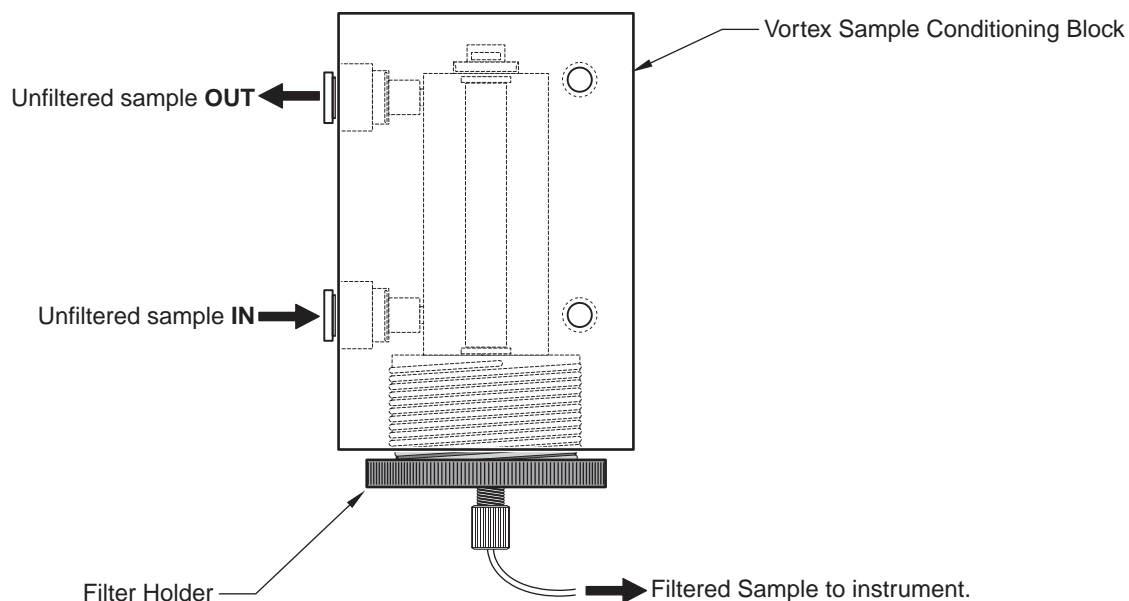
Figure 1 Removing the Sample Bypass Block



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5. Install the vortex sample conditioning block onto the same location as the sample bypass block using two 1½ in. x #6 phillips-head screws from the kit. Orient the block with the knurled filter holder on the bottom and the ¼ in. connections facing toward the rear of the analyzer.
6. Connect the ¼-28 fitting (filtered sample to the instrument) to the bottom port of the sample conditioning block. Assume the ¼-28 fitting as well as the filter holder are finger tight. Do not overtighten these parts. See [Figure 2](#).

Figure 2 The Vortex Sample Conditioning Block

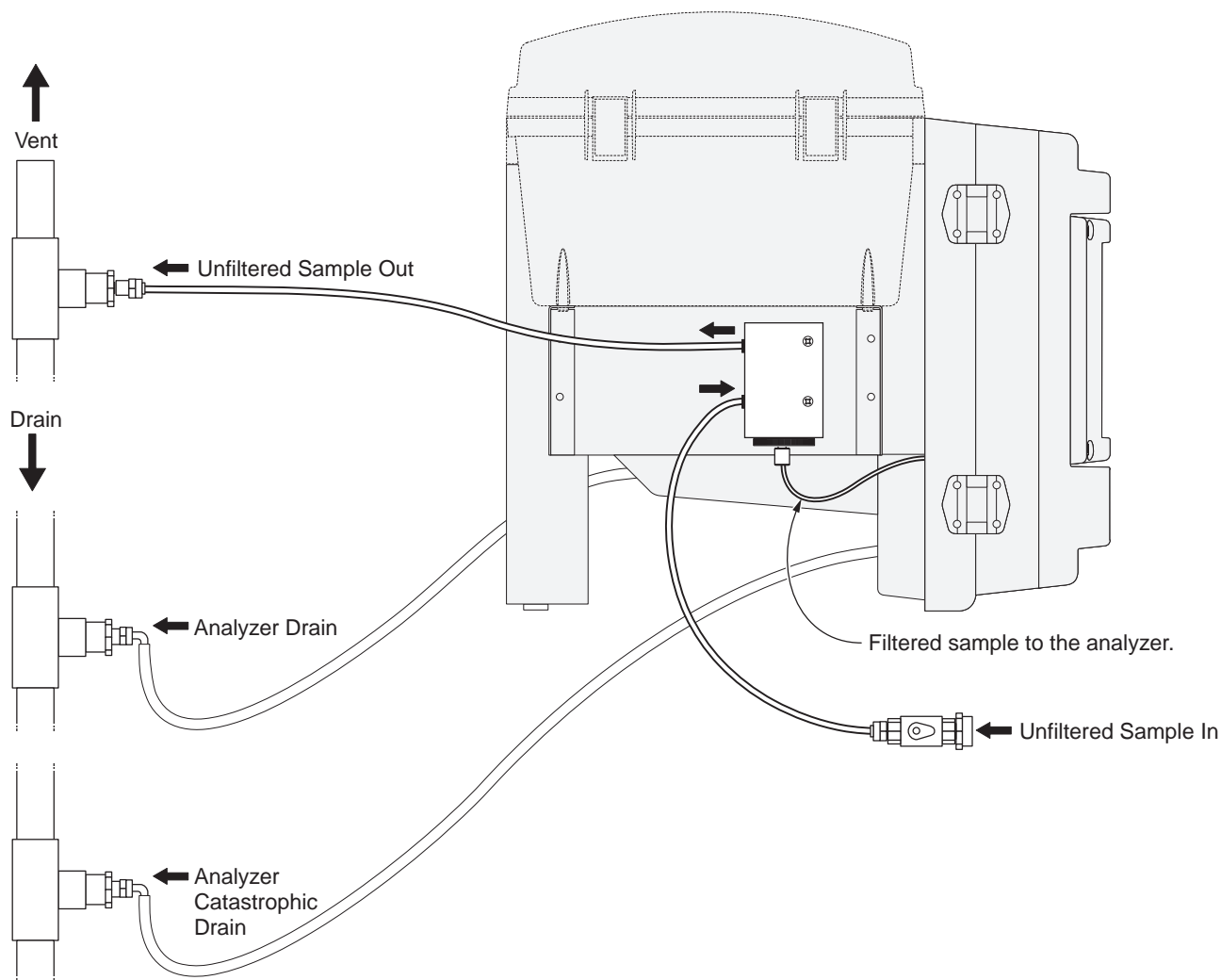


7. Install a ¼ in. unfiltered sample line to the bottom connector facing the rear of the vortex sample conditioning block. The sample should be valved and present at less than 30 psi.
8. Install a ¼ in. sample outlet to the unfiltered sample out (top) connector. This outlet should flow to a vent above or near the same height as the sample conditioning block. See [Figure 3](#).
9. Establish flow to the vortex sample conditioning block. Maximize flow (100 mL/min to 2000 mL/min) to provide a rapid vortex around the ceramic 0.5 µm filter. This helps in the self cleaning of this filter element.
10. Restart the analyzer.

The original 0.062 in. tubing from the sample bypass block to the rotary valve may be used from the vortex sample conditioning block to the rotary valve. If the original tubing has become damaged or blocked, it may be replaced with the additional tubing and fittings that are provided in the kit.

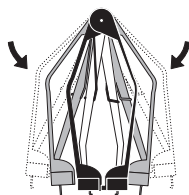
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Figure 3 Installation of the Vortex Sample Conditioning Block



Installing the Required Software Chip for the Vortex Sample Conditioning Block.

Important Note: The APA 6000 Analyzer circuit board components are extremely sensitive to static electricity damage. Do not touch the circuit board without wearing a properly grounded wrist strap. Read and follow these instructions carefully to avoid personal injury and damage to the instrument. Only qualified personnel should install the IC chip as described in this portion of the instruction sheet.



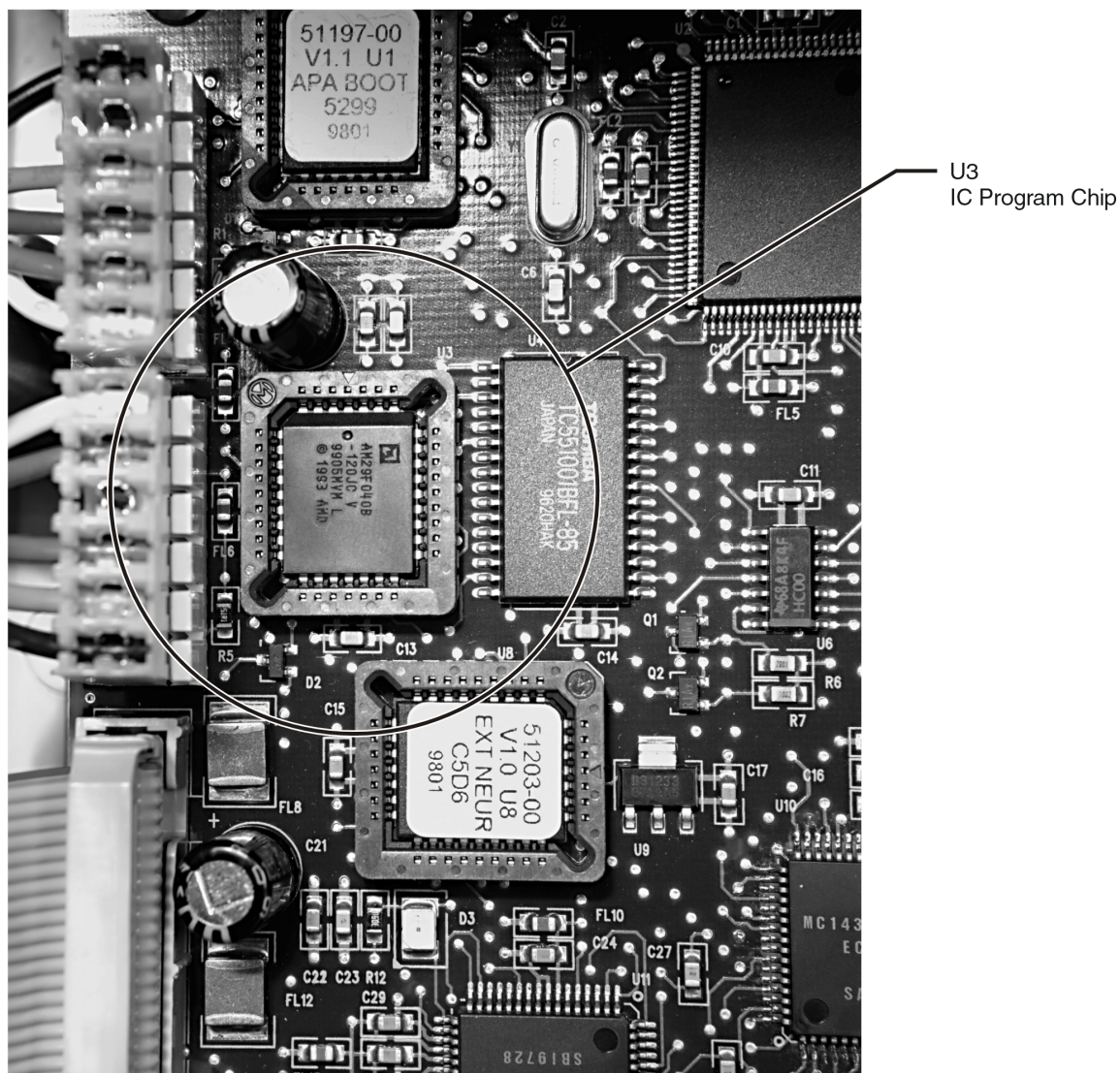
1. Turn off power to the analyzer by toggling the power switch to the off position.
2. Open the door of the analyzer and remove the two #10 phillips-head screws located at the upper right and left hand corners of the bulkhead. Carefully lower the bulkhead.
3. Remove the access cover at the inside back of the APA 6000 by removing the single #6 phillips-head screw near the center.
4. Refer to [Figure 4](#) to find socket U3 (the second chip down on the left side of the circuit board). Use an appropriate tool such as the PLCC extraction tool (Cat. No. 30484-00) to remove the flash memory chip (refer to the illustration at left).

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Remove the memory chip from the socket by placing the metal teeth of the extraction tool in the slotted corners of the socket. Gently squeeze the extraction tool to close around the memory chip. As you squeeze, the teeth of the extraction tool will pull the memory chip from the socket.

5. Carefully install the new flash memory chip in socket U3 with the proper orientation. Orient the memory chip so the angled corner of the chip aligns with the angled corner of the socket. Press the memory chip firmly in place until it is seated in the socket.
6. Replace the cover and bulkhead. Restore power and begin operation.

Figure 4 IC Chip Location



FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:
In the U.S.A. – Call toll-free 800-227-4224
Outside the U.S.A. – Contact the HACH office or distributor serving you.
On the Worldwide Web – www.hach.com; E-mail – techhelp@hach.com

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