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Service Note

98-025 Rev B
2 May, 2007

RETROFIT OF PERM TUBE INTO M200A WITH VALVES

SCOPE:

This service note provides instructions on installing a Perm Tube oven into a M200A analyzer with IZS valves already installed.

PARTS:

API PN# KIT000056

TOOLS:

2 Adjustable wrenches
Flat Blade Screwdriver
Phillips head screwdriver

PROCEDURE:

1. Remove power and cover from analyzer.
2. Drop rear panel of analyzer. Locate the valves. Remove tube from right bottom fitting of valve on the right. Mark tube with a piece of masking tape as “filter”.
3. Remove tube from top fitting of valve on right. Mark tube “sample”.
4. Remove tubes from top and bottom fitting of valve on left.
5. Disconnect 4 pin power plug on valve bracket.
6. Loosen 2 captive screws holding valve bracket into chassis. Remove valve/bracket assy.
7. Remove 4 pin power plug from bracket. Remove screws holding valves to bracket and discard bracket.
8. Remove bottom left and top fittings from left valve (ports one & three).

NOTE: Do not allow the “collar nut” on the valve to turn more than ½ turn! Hold it with a wrench while removing and installing fittings!

9. Apply Teflon tape to the two ¼” tees included in KIT. Install these fittings onto left valve (see detail A of Drawing 1223, attached).
10. Install valves onto bracket attached to perm tube oven. Push 4 pin power connector into template hole in bracket.
11. Remove bulkhead fittings and tubes on rear panel marked SPAN1 and ZERO. Discard bulkhead fittings and tubes.
12. Remove the plug from the vacuum manifold on chassis floor just behind rear panel (see drawing 1135 sheet one). Install O-rings, orifice, filter, spring and fitting into vacuum manifold (compare sheet 1 and 2 of drawing #01135, attached).
13. Locate 5 pin connector for heater/thermistor. This is laying in the chassis near the **Moly,** with heat shrink over the connector.

NOTE: This connector may be under the Moly. You may have to loosen 4 captive screws on Moly base and lift Moly up to locate this connector.)

14. Remove heat shrink from connector and extend connector to its full length toward rear panel.

NOTE: For next 4 steps, please refer to Drawing #1223, page 2 of 2, attached.

15. Connect tubing from top left branch of the tee of the left valve (port three on valve) to the left side of the perm tube oven.
16. Connect tube from the top of the T on the lower side of the left valve (port one on valve) to the right side of the perm tube oven.
17. Place perm tube oven/valve assy into chassis. Tighten 2 captive screws.
18. Connect cable from step 11 to 5 pin connector on valve bracket.

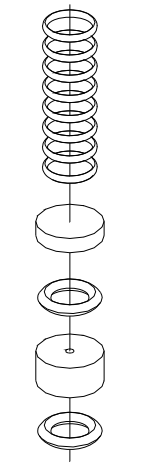
NOTE: For the next 3 steps, please refer to drawing #1223, page 2 of 2, attached.

19. Connect 1/8" tube from 3 mil orifice in vacuum manifold, (installed in step 12) to the lower fitting on the T on port one of the left valve.
20. Connect tube marked "filter", from step 2, to right side fitting of right valve (port two).
21. Connect tube marked "sample", from step 3, to top fitting of right valve (port three).

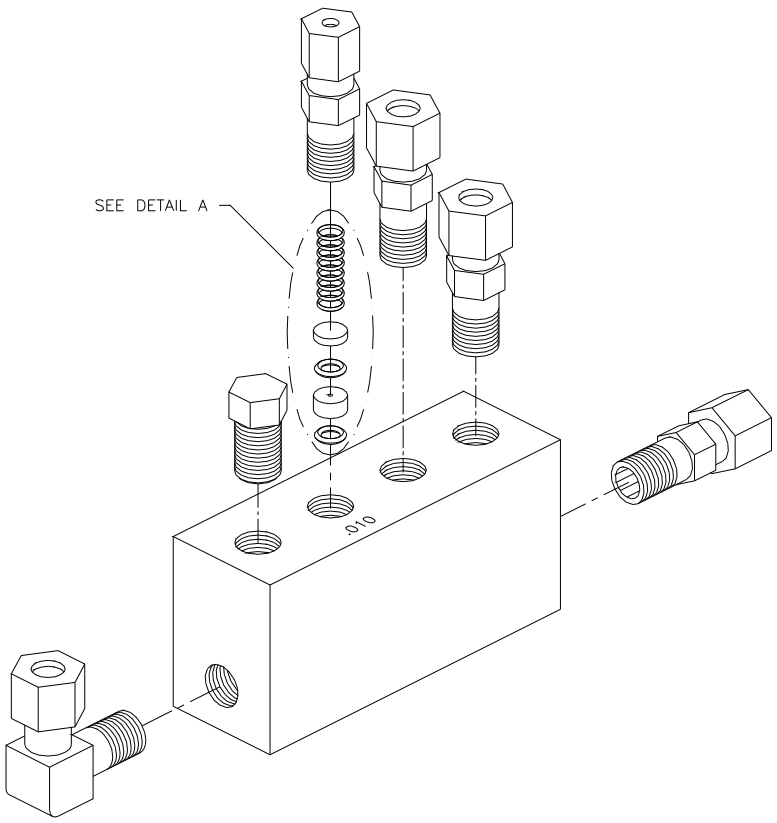
NOTE: Locate scrubber assy from KIT. This should have tubing and fittings attached to one end, terminating with an SS Bulkhead.

22. Attach 2 scrubber brackets to rear panel of analyzer.
23. Connect SS bulkhead of scrubber assy into the port marked "ZERO".
24. Place scrubber into brackets.
25. Connect 1/8" tube from scrubber to top of left tee of the left valve (port three).
26. Close rear panel.
27. The rear most printed circuit card on the motherboard is the "status temp card"; locate & remove the jumper that is on JP2.
28. Apply power to analyzer. Press SETUP-MORE-VARS. Change password to 929 and press ENTR. Press JUMP. Enter 60 and press ENTER press NEXT to "FACTORY_OPT" then press "EDIT" change the number to "20" press "ENTER" Press EXIT until you are at the main menu.
29. Turn the unit off then back on again.
30. Leak check as follows:
    A. Place a cap on the sample inlet. Ensure the analyzer is in Sample mode.
    B. Place a cap over the DFU at the dryer inlet.
    C. Wait 2 minutes, then cycle power on analyzer without turning off pump or removing caps.
    D. Scroll to the Sample Press and R-cell Press TEST functions. Ensure they are reading within 1"-Hg-A of each other. If not, locate and repair leak. This leak will not be in the IZS assembly.
    E. Remove cap from sample inlet and place cap on end of Zero Air scrubber, (you may have to install a fitting).
    F. Press CALS. Monitor Sample Pressure until stable, usually 5-10 minutes.
    G. Compare Sample Pressure to R-cell Pressure. They should be within 1"-Hg-A of each other. If not, there is a leak in the valve/oven or scrubber assy.
31. Perform a factory calibration on the analyzer.

If you have questions regarding this or any API equipment, please contact an API Customer Service Representative.



DETAIL A
SCALE 2/1



NOTE: LEAK CHECK ASSEMBLY WHEN COMPLETE

1 LABEL AS SHOWN

DATE	ECR#	DESCRIPTION OF CHANGE	BY
7/2/97		C: ADDED CALLOUT	RH
6/18/95		B: REDRAW AS ISO	
1/27/95		A: INITIAL RELEASE	KL

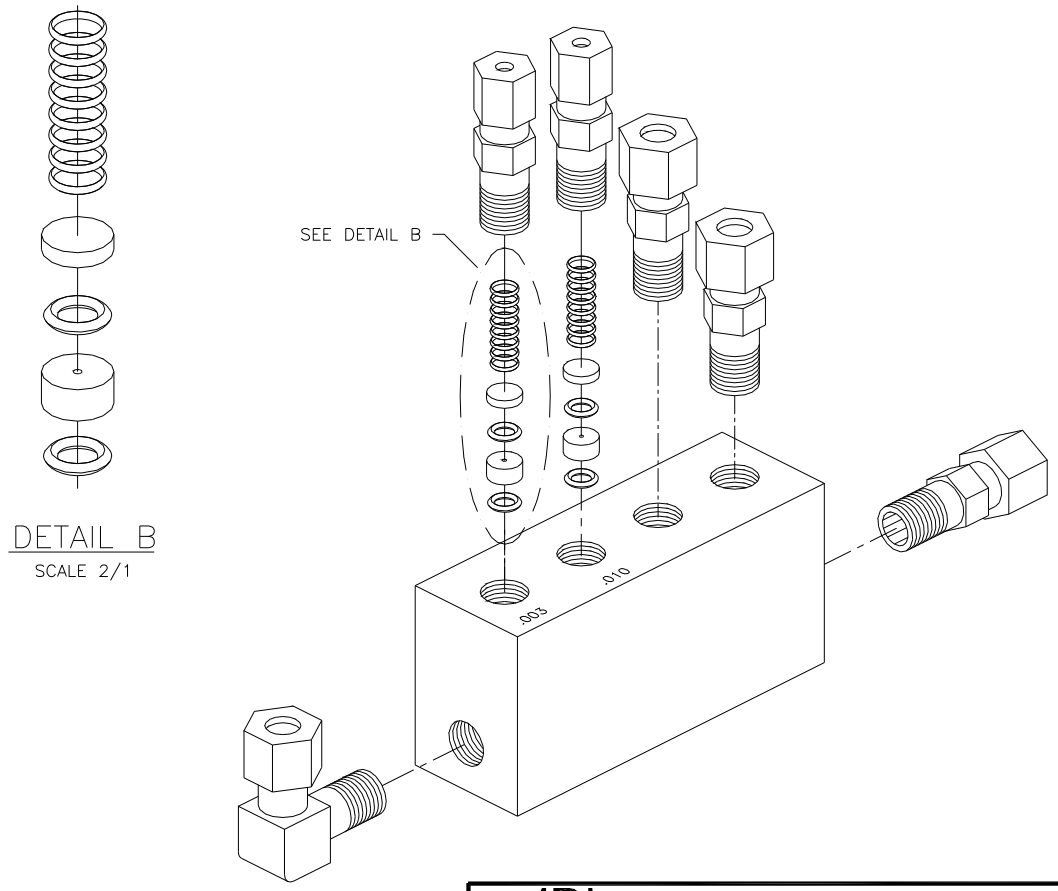
ADVANCED POLLUTION INSTRUMENTATION INC.
SAN DIEGO, CA.

APPROVALS	DATE
DRAWN J. HALL	1/95
CHECKED	
APPROVED	
DO NOT SCALE DRAWING	

M200A, VACUUM MANIFOLD ASSY

SIZE	DRAWING NO.	REVISION
A	01135	C
SCALE 1/1		SHEET 1 of 2

NOTE: LEAK CHECK ASSEMBLY WHEN COMPLETE



DETAIL B
SCALE 2/1

DATE	ECR#	DESCRIPTION OF CHANGE	BY
7/2/97		C: CHG CALLOUTS	RH
6/18/95		B: REDRAW AS ISO	KL
1/27/95		A: INITIAL RELEASE	KL

ADVANCED POLLUTION INSTRUMENTATION INC.
SAN DIEGO, CA.

APPROVALS	DATE
DRAWN J. HALL	1/95
CHECKED	
APPROVED	
DO NOT SCALE DRAWING	

M200A, VACUUM MANIFOLD, WITH IZS

SIZE	DRAWING NO.	REVISION
A	01135	C
SCALE 1/1		SHEET 2 of 2