



**97-015  
Rev B  
2 May, 2007**

## **REPLACING THE TEC (COOLER) IN M100A/M200A ANALYZERS**

### **SCOPE:**

The following instructions provide the necessary information for replacing the TEC in M100A and M200A analyzers.

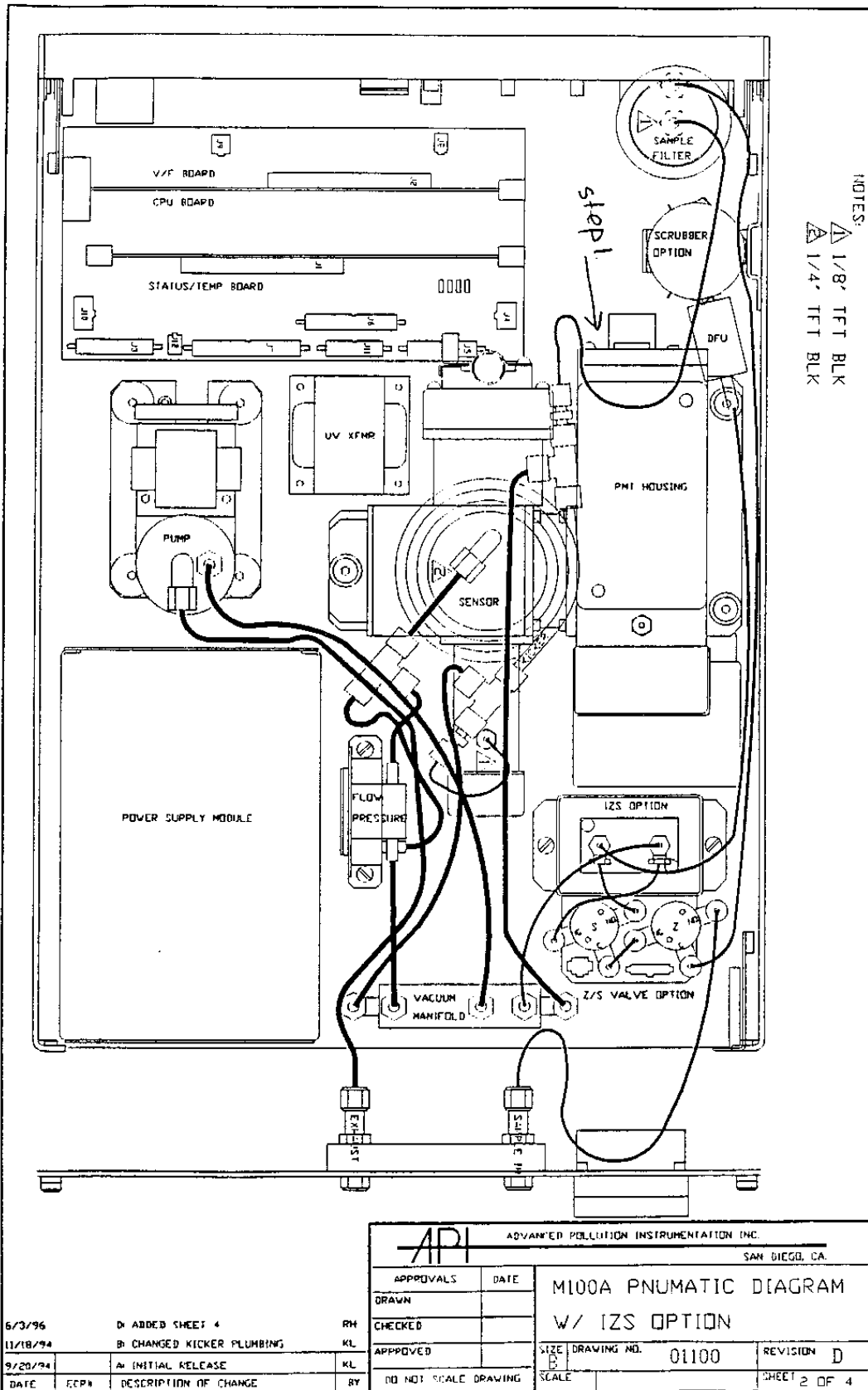
### **TOOLS:**

- 2 adjustable wrenches**
- 1 phillips head screwdriver**
- 1 API M100A/M200A TEC replacement kit (API part #KIT000019)**

### **PROCEDURE:**

- 1. Remove power from the analyzer.**
- 2. Take cover off of analyzer.**
- 3. Disconnect all tubing from the top of the sensor housing.**
- 4. Disconnect the electrical cables from the TEC +15V supply. (For M100A, also disconnect cables for UV lamp and shutter).**
- 5. Disconnect the ribbon cable from the PMT Preamp at the motherboard.**
- 6. Disconnect the Rcell heater/thermistor 5 pin connector.**
- 7. Remove the screws from the sensor basement and remove the sensor from the analyzer.**
- 8. Remove the TEC bracket with the TEC control card attached.**
- 9. Remove the TEC heat sink from the sensor.**
- 10. Replace the TEC heat sink and the TEC with the ones received from API (see attached drawing 01144 step 10).**
- 11. Apply a thin, even coating of heat sink compound to the open side of the cooler.**
- 12. Install the cooler and the heat sink back into the unit.**
- 13. Install TEC bracket with TEC control board. Ensure connectors are seated.**
- 14. Remove the front end of the PMT housing, (with the coax and colored cable to the PMT PREAMP), (see attached drawing 01100 step 14).**
- 15. Remove the desiccant packets from the PMT housing. Install the replacements received from API.**
- 16. Install the PMT housing cover and attach the coax and colored cables.**
- 17. Install the sensor housing into the analyzer, connecting all wires and tubes.**
- 18. Install the cover into the analyzer.**
- 19. Apply power to the analyzer and allow the unit to run for 1/2 hour. Verify all test parameters are correct.**
- 20. Calibrate the analyzer.**

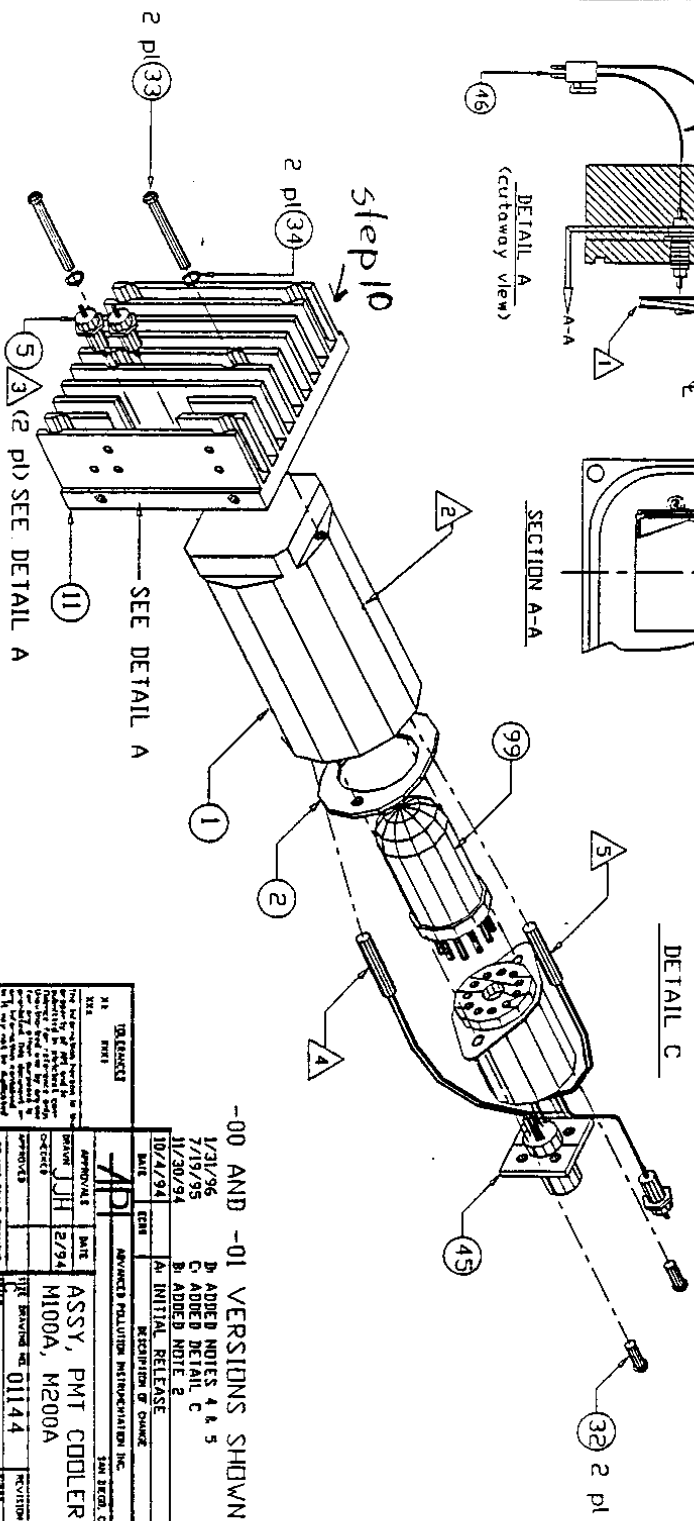
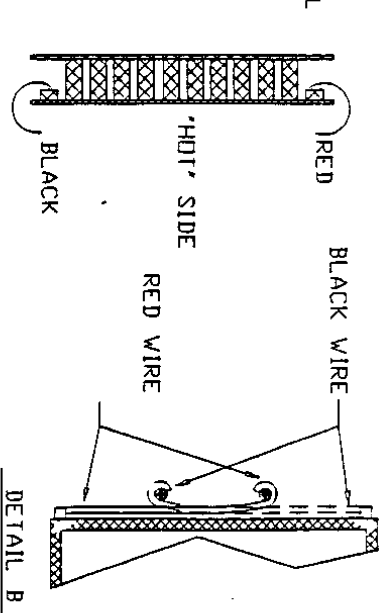
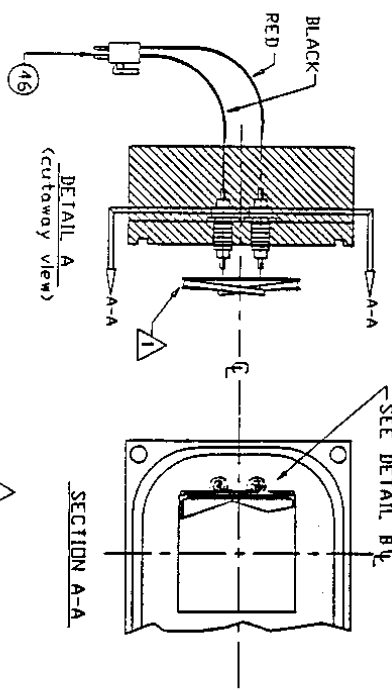
**Should you have any questions, please contact API Customer Service.**



<b>API</b>		ADVANCED POLLUTION INSTRUMENTATION INC. SAN DIEGO, CA.	
APPROVALS	DATE	M100A PNUMATIC DIAGRAM W/ IZS OPTION	
DRAWN			
CHECKED			
APPROVED		SIZE	DRAWING NO. 01100
DATE	FCP#	SCALE	REVISION D
DESCRIPTION OF CHANGE	BY	DO NOT SCALE DRAWING	SHEET 2 OF 4

6/3/96		D1 ADDED SHEET 4	RH
11/18/94		B1 CHANGED KICKER PLUMBING	KL
9/20/94		A1 INITIAL RELEASE	KL
DATE	FCP#	DESCRIPTION OF CHANGE	BY

- 1 VERIFY THAT LEADS CONNECT TO HOT SIDE OF COOLER AND MARK THAT SIDE 'HOT' (SEE DETAIL C).
- 2 APPLY GENEROUS LAYER OF THERMAL GREASE TO BOTH SIDES OF COOLER. PLACE 'HOT' SIDE AGAINST HEATSINK.
- 3 BEFORE ASSEMBLY, SHINE A LIGHT DOWN THE INSIDE OF THE COLD BLOCK AND CHECK FOR BLOCKAGE OF THIS HOLE. IF HOLE IS BLOCKED, INSERT A RESISTOR LEAD TO CLEAR HOLE. GENTLY TAP COLD BLOCK ON BENCH, OPEN END DOWN, TO REMOVE ANY ADDITIONAL PARTICLES FROM TEST LED BORE.
- 4 APPLY RTV ALONG THE THREADS OF FEED THRU (CN151)
- 5 DO NOT APPLY THERMAL GREASE TO LED



-00 AND -01 VERSIONS SHOWN

APPROVALS		DATE	
DRN	JH	2/7/94	
CHKD			
DESIGNED BY			
DO NOT SEAL BRAVING			

REVISIONS		DATE	
REV	DESCRIPTION OF CHANGE	DATE	BY
1	INITIAL RELEASE	10/4/94	ML
2	ADDED NOTE 2	11/30/94	ML
3	ADDED DETAIL C	7/19/95	ML
4	ADDED NOTES 4 & 5	1/31/96	ML

ADVANCED POLYMER INSTRUMENTATION INC.		SAN BERN CO	
ASSY, PMT COOLER		M100A, M200A	
REV BAYING NO. 01144		REV D	