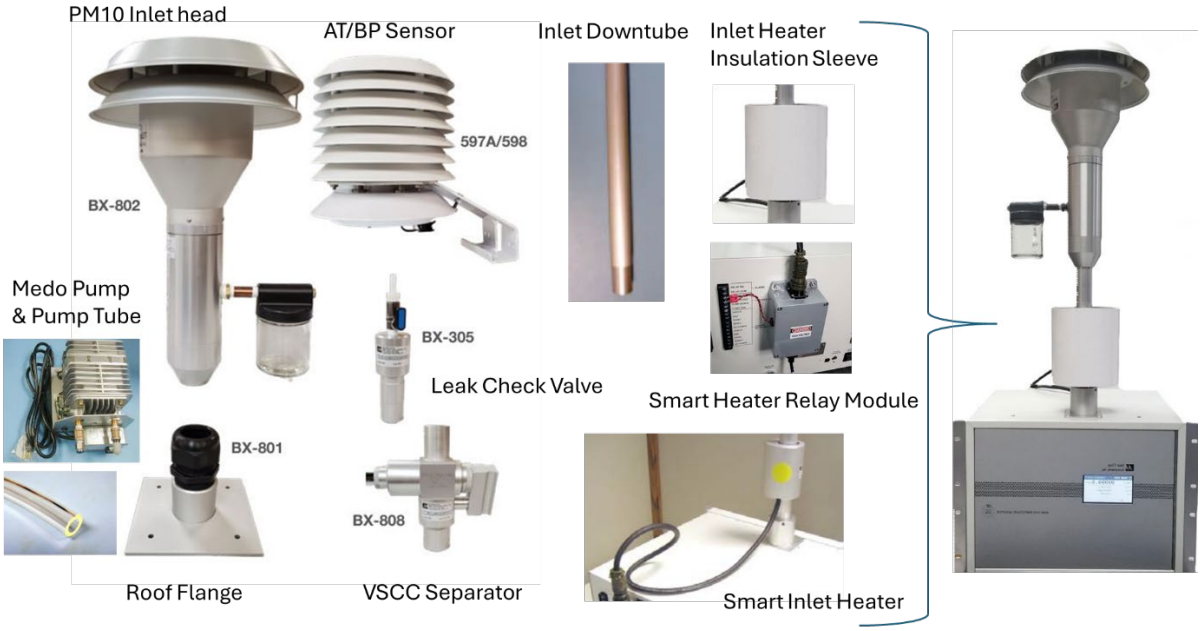
MET ONE BAM-1020 ASSEMBLY

1. Identify the following components: PM10 inlet head, AT/BP sensor, inlet downtube or inlet tube, leak check valve, roof flange, VSCC separator, smart inlet heater, heater insulation sleeve, relay module, Medo pump, pump tubing.



2. Remove roof flange threaded cap and rubber seal from the watertight inlet tube seal assembly. Lower the inlet downtube through the flange assembly and into the BAM inlet receiver.
    a. *Skip this step since we do not have the outdoor enclosure w/ roof flange assembly*

3. Pass the downtube through the hole of the smart heater body (the cable end is the bottom) and align the downtube in a vertical straight line into the BAM inlet receiver collar. Insert the downtube into the collar, it should seat securely into the inside O-rings. If the inlet tube is straight and seated properly, then the tube should rotate back and forth easily while inserted into the BAM.
    a. *If it does not rotate, check the inlet tube for vertical alignment or move the BAM slightly.*

4. Secure the downtube to the waterproof roof flange.
    a. *skip this step since we do not have the outdoor enclosure w/ roof flange assembly*

5. Tighten the two set screws in the inlet receiver to secure the downtube.

6. Position the bottom of the smart heater two inches above the top of the inlet receiver and tighten the two set screws in the heater to fasten it to the downtube.

7. Wrap heater insulation sleeve around the heater body and peel back adhesive cover strip to secure in place.

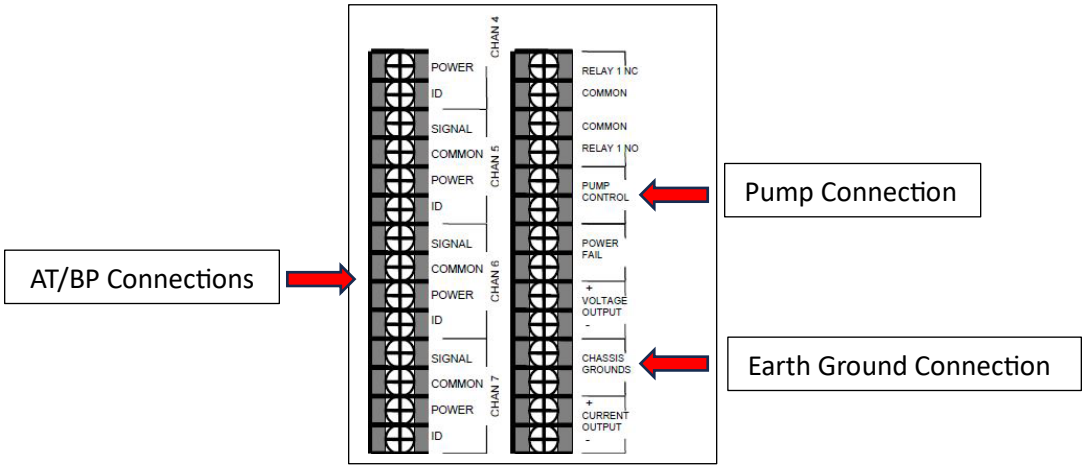
8. Connect the Smart Heater cable to the connector on the top of the rear gray relay module on back of the BAM.
    a. *Relay module has a separate power cord to supply power to heater*
    b. *Older configuration: heater plugs directly into BAM with no relay module*

9. Attach the AT/BP sensor onto the downtube using the U-bolts and connect signal cable to the terminals on back of BAM marked “TERMINAL

10. Insert the VSCC and PM10 inlet head onto the downtube

11. Route the air tubing from the Medo pump to the back of the BAM unit and insert it firmly into the compression fittings on both end

12. The Medo pump is supplied with a 2-conductor signal cable which the BAM uses to turn the pump on and off. Connect pump 2-conductor signal cable to the terminals on back of the BAM marked “PUMP CONTROL.”



13. Identify the green 2-wire conductor cable to chassis terminal on back of BAM and connect green cable to earth ≒ ground (i.e. grounding rod)

14. Connect the AT/BP sensor cable to the terminals on back of the BAM marked Channel 6 and Channel 7 as follows:

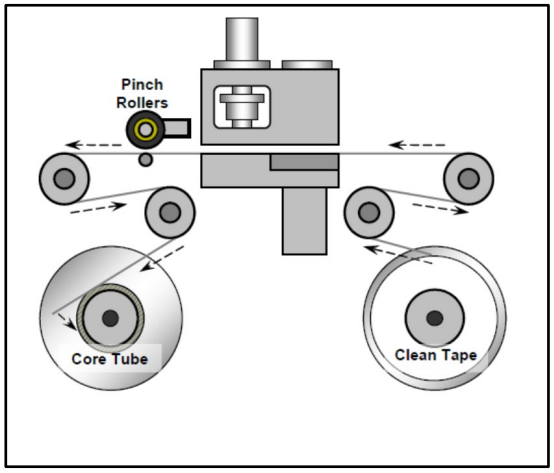
BX-596 AT/BP Sensor	
Wire Color	**Terminal Name**
Yellow	Channel 6 SIG
Black/Shield	Channel 6 COM
Red	Channel 6 POWER
Green	Channel 6 ID
White	Channel **7** SIG

15. Plug-in Medo sample pump power cord to electrical outlet. Plug-in heater relay module power cord to electrical outlet.

16. Plug-in BAM unit power cord to electrical outlet and allow monitor to warm-up

17. Proceed to post-assembly steps and filter tape loading (see operation manual)

Filter Tape Loading Diagram



BAM-1020 Configuration Parameters to View Post Assembly

Menu	Sub-Menu	Setting
SETUP > CLOCK	--	Verify that BAM clock is 2 minutes ahead of data logger clock
SETUP > SAMPLE	BAM SAMPLE	042 MIN
	RANGE	1.000 mg
	OFFSET	-0.015 mg
	CONC UNITS	µg/m³
	COUNT TIME	8 MIN
SETUP > CALIBRATE	SPAN CHECK	24HR
	FLOW RATE	0016.7
	CONC TYPE	ACTUAL
	FLOW TYPE	ACTUAL
	HEATER CONTROL	AUTO
SETUP > HEATER	RH Control	YES
	RH Setpoint	35%
	Datalog RH	YES (Chan 4)
	Delta-T Control	NO

Summary of Post-Assembly Steps

Verify the settings
Install the filter tape
Perform the self-test
Calibrate the ambient temperature, ambient pressure and flows
Perform a leak check
Perform a 72-hour zero test