

About this Document

This Audit sheet is a recommended list of system checks for the Met One Instruments BAM-1020 unit. Some of the line items in this form may not be applicable to certain units due to optional hardware. Certain units may need additional checks not listed on this sheet.

To use this form for system audits, fill out the “as found” items without making any changes to the unit. To use this form for a test and calibration record, fill out the “as found” and “as left” items, performing any necessary maintenance and calibrations required.

This document may be modified, revised, translated, or incorporated into SOPs by the end user as needed.

- **Flow Audits:** Perform an as-found leak check, then clean the nozzle and vane and perform an as-left leak check. Perform a flow audit or calibration, recording the values before and after making any changes.
- **Mechanical Audits:** Inspect each of the listed items and perform any maintenance necessary. Check each box as the item is completed.
- **Analog Voltage Audit:** Enter the TEST>DAC screen and force the voltage output to each level, then measure the voltage at the back of the BAM and at the analog data logger to verify agreement. These checks are not required if no external analog data logger is used.
- **Membrane Audit:** Record the last span membrane measurement (LAST m) from the OPERATE>NORMAL screen and compare it to the ABS value. Calculate and record the difference.
- **Setup Values:** Enter the SETUP menus and verify each setting value has not been changed. Items marked with an asterisk are critical PM2.5 FEM settings. Enter the factory calibration settings from the unit’s calibration certificate. The rest of the expected values should be recorded when the instrument is initially set up, since some of the settings will differ for various applications.

BAM-1020 Audit Sheet

Model: BAM-1020

Serial Number:

Audit Date:

Audited By: _____

Flow Audits			
Flow Reference Standard Used:	Model:	Serial No:	Calibration Date:
Temperature Standard Used:	Model:	Serial No:	Calibration Date:
Barometric Pressure Standard Used:	Model:	Serial No:	Calibration Date:

Leak Check Value:	as found: slpm	as left: slpm								
Ambient Temperature:	as found: <table border="1" style="width: 100%;"><tr><th>BAM</th><th>Ref. Std.</th></tr><tr><td style="text-align: center;">C</td><td style="text-align: center;">C</td></tr></table>	BAM	Ref. Std.	C	C	as left: <table border="1" style="width: 100%;"><tr><th>BAM</th><th>Ref. Std.</th></tr><tr><td style="text-align: center;">C</td><td style="text-align: center;">C</td></tr></table>	BAM	Ref. Std.	C	C
BAM	Ref. Std.									
C	C									
BAM	Ref. Std.									
C	C									
Barometric Pressure:	as found: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">mmHg</td><td style="text-align: center;">mmHg</td></tr></table>	mmHg	mmHg	as left: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">mmHg</td><td style="text-align: center;">mmHg</td></tr></table>	mmHg	mmHg				
mmHg	mmHg									
mmHg	mmHg									
Flow Rate 15.0 lpm:	as found: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">lpm</td><td style="text-align: center;">lpm</td></tr></table>	lpm	lpm	as left: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">lpm</td><td style="text-align: center;">lpm</td></tr></table>	lpm	lpm				
lpm	lpm									
lpm	lpm									
Flow Rate 18.4 lpm:	as found: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">lpm</td><td style="text-align: center;">lpm</td></tr></table>	lpm	lpm	as left: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">lpm</td><td style="text-align: center;">lpm</td></tr></table>	lpm	lpm				
lpm	lpm									
lpm	lpm									
Flow Rate 16.7 lpm:	as found: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">lpm</td><td style="text-align: center;">lpm</td></tr></table>	lpm	lpm	as left: <table border="1" style="width: 100%;"><tr><td style="text-align: center;">lpm</td><td style="text-align: center;">lpm</td></tr></table>	lpm	lpm				
lpm	lpm									
lpm	lpm									

Mechanical Checks

Pump muffler unclogged:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>	PM10 particle trap clean:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>
Sample nozzle clean:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>	PM10 drip jar empty:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>
Tape support vane clean:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>	PM10 bug screen clear:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>
Capstan shaft clean:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>	PM2.5 cyclone particle trap clean:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>
Rubber pinch rollers clean:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>	Inlet tube water-tight seal OK:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>
Chassis ground wire installed:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>	Inlet tube perpendicular to BAM:	as found	<input type="checkbox"/>	as left	<input type="checkbox"/>

Analog Voltage Output Audit			N/A
DAC Test Screen	BAM Voltage Output	Logger Voltage Input	
0.000 Volts	Volts	Volts	
0.500 Volts	Volts	Volts	
1.000 Volts	Volts	Volts	

Span Membrane Check	
LAST m:	mg/cm2
ABS:	mg/cm2
Difference:	mg/cm2
Difference:	%

BAM Clock	
BAM Date:	
BAM Time:	
Actual Time:	
Set? (Y/N)	

SETUP > SAMPLE Settings			SETUP > CALIBRATE Settings			Other Settings		
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
RS232	9600		FLOW RATE	16.7 lpm*		e1	-0.015 mg	
BAM SAMPLE	42 min*		FLOW TYPE	ACTUAL*		Cycle Mode	STANDARD	
STATION #			CONC TYPE	ACTUAL*		RH Control	YES*	
MET SAMPLE	60 min			Cv		RH Setpoint	35%*	
RANGE	1.000 mg			Qo		Datalog RH	YES	
OFFSET	-0.015 mg			ABS		Delta-T Control	NO*	
CONC UNITS	mg/m3			μ sw		Delta-T Setpoint	99	
COUNT TIME	8 min*			K		Datalog Delta-T	NO	
				BKGD				
				STD TEMP	25 C			
				HEATER	AUTO*			

* Required PM2.5 FEM settings. See manual.

Last 8 Errors in the BAM-1020 Error Log

Error	Date	Time	Error	Date	Time
1			5		
2			6		
3			7		
4			8		

Notes:

