

## Models/Modelos/Modèles

BB15-CO, BB15-CO2, BB30-CO, BB30-CO3,  
BB50-CO, BB75-CO, BB100-CO, BB100-CO6,  
BB100-CO8, BB150-CO

Manual No. BREBX013  
(Rev 6 July 2008)



# Operating Manual Manual de instrucciones Manuel d'utilisation



## AIR SYSTEMS INTERNATIONAL, INC.

829 Juniper Crescent, Chesapeake, Va., 23320

Telephone (757) 424-3967

Toll Free 1-800-866-8100

Fax No. (757) 424-5348

<http://www.airsystems.com>

e-mail: [sales@airsystems.com](mailto:sales@airsystems.com)



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Kent, WA 98032  
(253) 373-9041

[info@tttenviro.com](mailto:info@tttenviro.com)

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## SPECIFICATIONS

	BB15 SERIES	BB30 SERIES	BB50 SERIES	BB75 SERIES	BB100 SERIES	BB150 SERIES
<b>Size</b>	19"L x 13"H x 7"D	19"L x 13"H x 7"D	23.5"L x 16.75"L x 8.5"D	23.5"L x 16.75"H x 8.5" D	26.25"L x 20.75"H x 9" D	26.25"L x 20.75"H x 9" D
<b>Weight</b>	12.3 lbs/5.6 kg	19.7 lbs/8.0 kg	26.4 lbs/11.9 kg	34.2 lbs/15.5 kg	38.8 lbs/17.6 kg	38.8 lbs/17.6 kg
<b>Inlet Size</b>	1/4" Industrial Interchange	1/2" Industrial Interchange	1/2" Industrial Interchange	1/2" Industrial Interchange	1/2" Industrial Interchange	1" Chicago Fitting
<b>No. of Outlets</b>	1	2 Standard 3 Optional	4	6 or Single 1/2" NPT Outlet	4-8 or Single 1/2" NPT Outlet	Three 1/2" Industrial Interchange
<b>Maximum Air Flow (cfm/bar)</b>	15scfm @ 110psi 425 lpm @ 7.5 bar	30scfm @ 110psi 850 lpm @ 7.5 bar	50scfm @ 110psi 1415 lpm @ 7.5 bar	75scfm @ 110psi 2124 lpm @ 7.5 bar	100scfm @ 110psi 4248 lpm @ 7.5 bar	150scfm @ 110psi 4955 lpm @ 7.5 bar
<b>Remote Alarm Signal</b>	No	Yes	Yes	Yes	Yes	Yes
<b>Maximum Inlet Pressure</b>	150psi (10.3 bar)					
<b>Relief Valve</b>	125psi (8.6 bar)					
<b>Monitoring</b>	Inline Continuous Monitoring of Carbon Monoxide (CO)					
<b>Power</b>	9-16 VDC or 110-120 VAC 50/60 Hz					

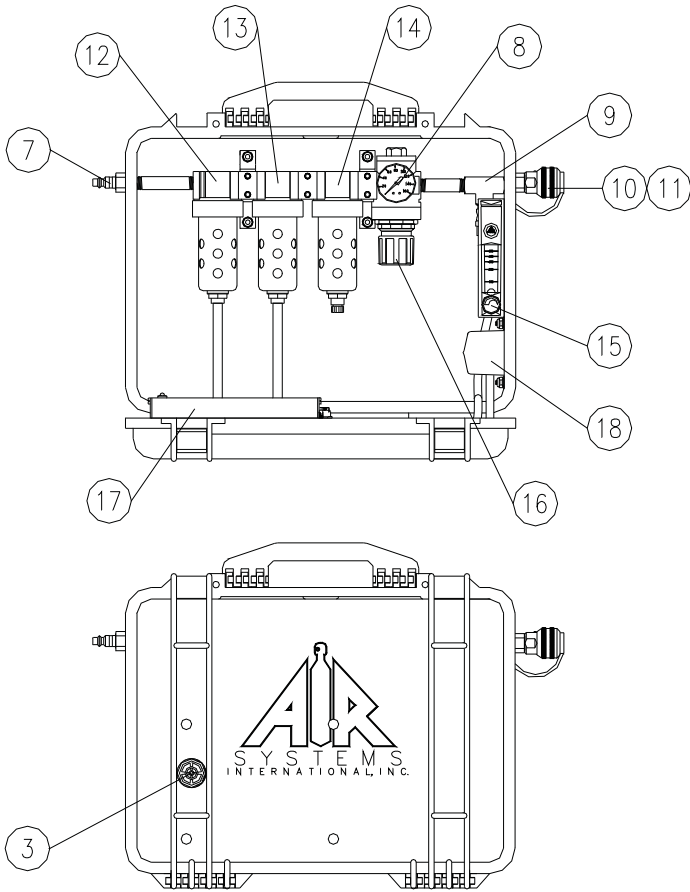
## BREATHER BOX™ PARTS IDENTIFICATION

ITEM #	DESCRIPTION	BB15	BB30	BB50	BB75	BB100	BB150
1	REMOTE ALARM JACK	N/A	ELJP004	ELJP004	ELJP004	ELJP004	ELJP004
2	REMOTE ALARM JACK COVER	N/A	ELJP005	ELJP005	ELJP005	ELJP005	ELJP005
3	HIGH CO AUDIBLE ALARM	N/A	ELLS004	ELLS004	ELLS004	ELLS004	ELLS004
4	HIGH CO INDICATOR	N/A	MONC004	MONC004	MONC004	MONC004	MONC004
5	CLEAR LED LENS	N/A	ELDS013	ELDS013	ELDS013	ELDS013	ELDS013
6	NORMAL OPERATION INDICATOR	N/A	MONC005	MONC005	MONC005	MONC005	MONC005
7	INLET FITTING	QDH3PL6M	QDH5PL8M	QDH5PL8M	QDH5PL8M	QDH5PL8M	QDCH16M
8	PRESSURE GAUGE	GA20160B	GA20160B	GA20160B	GA20160B	GA20160B	N/A
9	RELIEF VALVE	VR4125BR	VR4125BR	VR4125BR	VR4125BR	VR4125BR	VR4125BR
10	HANSEN RESPIRATORY COUPLING	QDH3SL6M	QDH3SL6M	QDH3SL6M	QDH3SL6M	QDH3SL6M	QDH5SL12M
10a	SCHRADER RESPIRATOR COUPLING	QDSSL6M	QDSSL6M	QDSSL6M	QDSSL6M	QDSSL6M	N/A
11	HANSEN DUST CAP	QDH3DCAP	QDH3DCAP	QDH3DCAP	QDH3DCAP	QDH3DCAP	N/A
11a	SCHRADER DUST CAP	QDSDCAP	QDSDCAP	QDSDCAP	QDSDCAP	QDSDCAP	N/A
12	1ST STAGE COMPLETE FILTER ASSY	15FLTRAW	WL251	WL007	WL175	WL066	WL132
13	2ND STAGE COMPLETE FILTER ASSY	15FLTCWDP	WL253	WL008	WL177	WL017	WL059S
14	3RD STAGE COMPLETE FILTER ASSY	15FLTRDW	WL255	WL009	WL179	WL018	WL060S
15	FLOW METER	WL033NS	WL033NS	WL033NS	WL033K	WL033NS	WL033K
16	PRESSURE REGULATOR	15REGW	WL257	WL015	WL181	WL015	WL013A
17	CARBON MONOXIDE MONITOR	CO-91AB	CO-91	CO-91	CO-91	CO-91	CO-91
18	115 VAC RECESSED PLUG	ELJP006	ELJP006	ELJP006	ELJP006	ELJP006	ELJP006

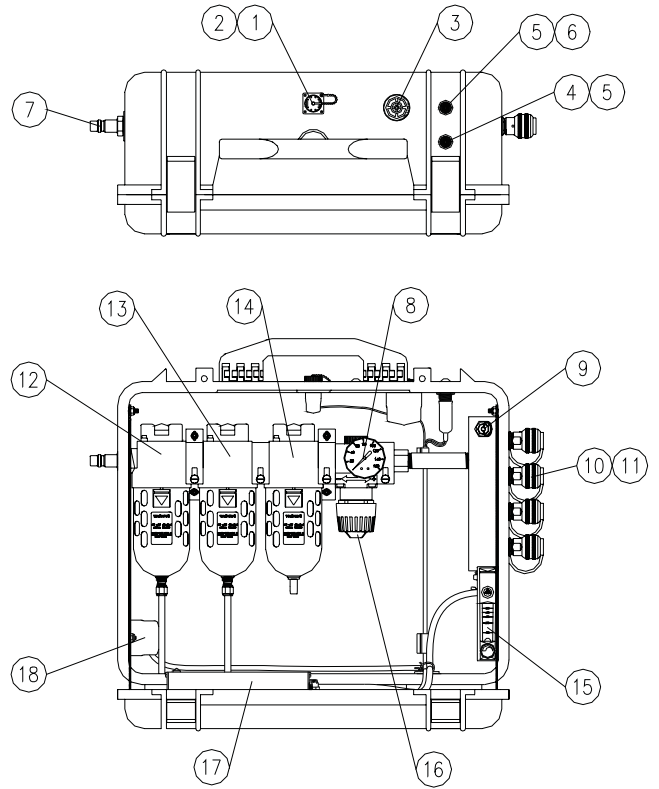
*\*Note: Some models may not have respirator connections. They can be ordered with NPT outlets for connection to drop stations or point of attachments.*

# BREATHER BOX™ PARTS IDENTIFICATION

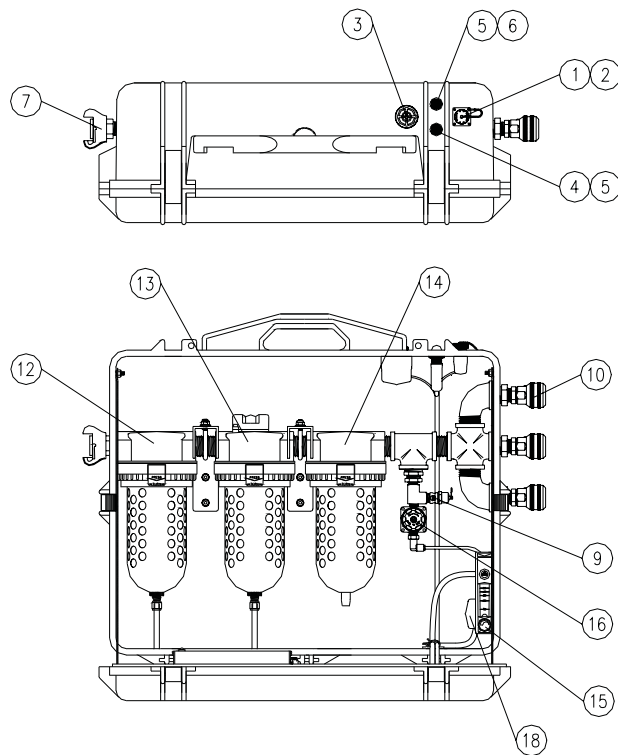
## MODEL BB15-CO



## MODELS BB30-100



## MODEL BB150-CO



## BREATHING AIR QUALITY POSITION STATEMENT

The responsibility for the quality of breathing air rests with the user. Compliance with federal, state, or local regulations are the responsibility of the user and this recommendation does not supersede any existing rules, regulations, or laws which may apply. Breathing air filtration products meet or exceed CGA Grade-D specifications for air quality as adopted by Federal OSHA. Compressor air quality standards meet or exceed OSHA 1910.134 requirements. When the components are used in accordance with the manufacturer's instructions and recommendations, the "system" meets or exceeds federal regulations presently in force. It is incumbent upon the user to comply with any changes in the regulations or law which may occur in future situations.

The air supply compressor should be located in a safe, clean ambient air environment. This "safe" location should be tested periodically using proper instruments to ensure clean ambient air quality on a consistent basis. Total system Grade-D air quality should be tested at the time of initial setup. If the compressor is moved, retesting air quality is recommended. Should the location or environment significantly change, the air quality should be retested. The compressor filters and oil level should be checked daily and changed when contaminated or when the maximum number of "run" hours is achieved.

This series of air filtration units should be used according to the recommendations specified in the manual. The standard filtration package is not explosion-proof and should be located in a non-explosive environment. (An intrinsically safe model is available, please contact the factory for information.) The carbon monoxide monitor should be calibrated monthly or if the accuracy of the monitor is in question. System air quality should be tested for, but not limited to, the following Grade-D air components:

- CO - Carbon Monoxide
- O<sub>2</sub> - Oxygen
- CO<sub>2</sub> - Carbon Dioxide
- H<sub>2</sub>O - Water (Moisture Content)
- Hydrocarbons (Oil Mist)
- Total Particulates

**The maximum allowable level of these air quality components varies depending on Grade-D or E requirements. Contact sales for a copy of the latest standards.**

*Our Breathing Air compressors and filtration systems meet all of the following federal specifications when used and serviced in accordance with our instructions.*

**Federal OSHA 29 CFR 1910.134  
"Compressor Operations for Breathing Air"  
Army Corps of Engineers EM385-1-1,  
paragraph 07b-11-4,  
"Compressed Breathing Air"**

## FILTRATION EFFICIENCY

<b>1st Stage</b>	<b>Particulate/Bulk Liquid Separation</b>	Auto Drain and Filter change indicator. Removes 95% bulk particulate and liquids @ 5 microns
<b>2nd Stage</b>	<b>Oil Coalescing and Ultra Fine Particulate</b>	Auto Drain and Filter change indicator. Removes oil and particulate to 99.9998% @ 0.01 microns
<b>3rd Stage</b>	<b>Activated Charcoal</b>	Manual Drain and Filter change indicator. Removes organic vapors, odors, and tastes. Less than 0.003 pp/wt remaining oil content

*Note: Filter Change Indicators are standard on all models except the BB15 series.*

## MONITOR OVERVIEW

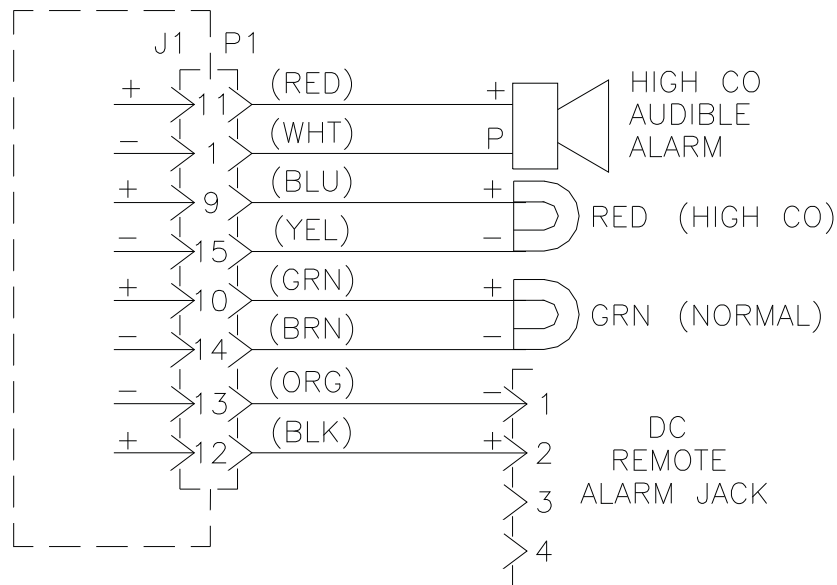
The monitor will analyze the air sample and display the CO concentration in parts-per-million (ppm). The system's green "NORMAL" operation light will illuminate and the red "HIGH CO" light will flicker faintly approximately every second when the CO level is below 10ppm (5ppm Canadian). If the CO concentration level exceeds the alarm set point, the green "NORMAL" light will turn off, the red "HIGH CO" light will illuminate, the audible alarm will sound and the remote alarm connections (if used) will energize. Once the CO concentration levels drop below the alarm set point, all alarm indicators will deactivate and the unit will return to "NORMAL" operation.

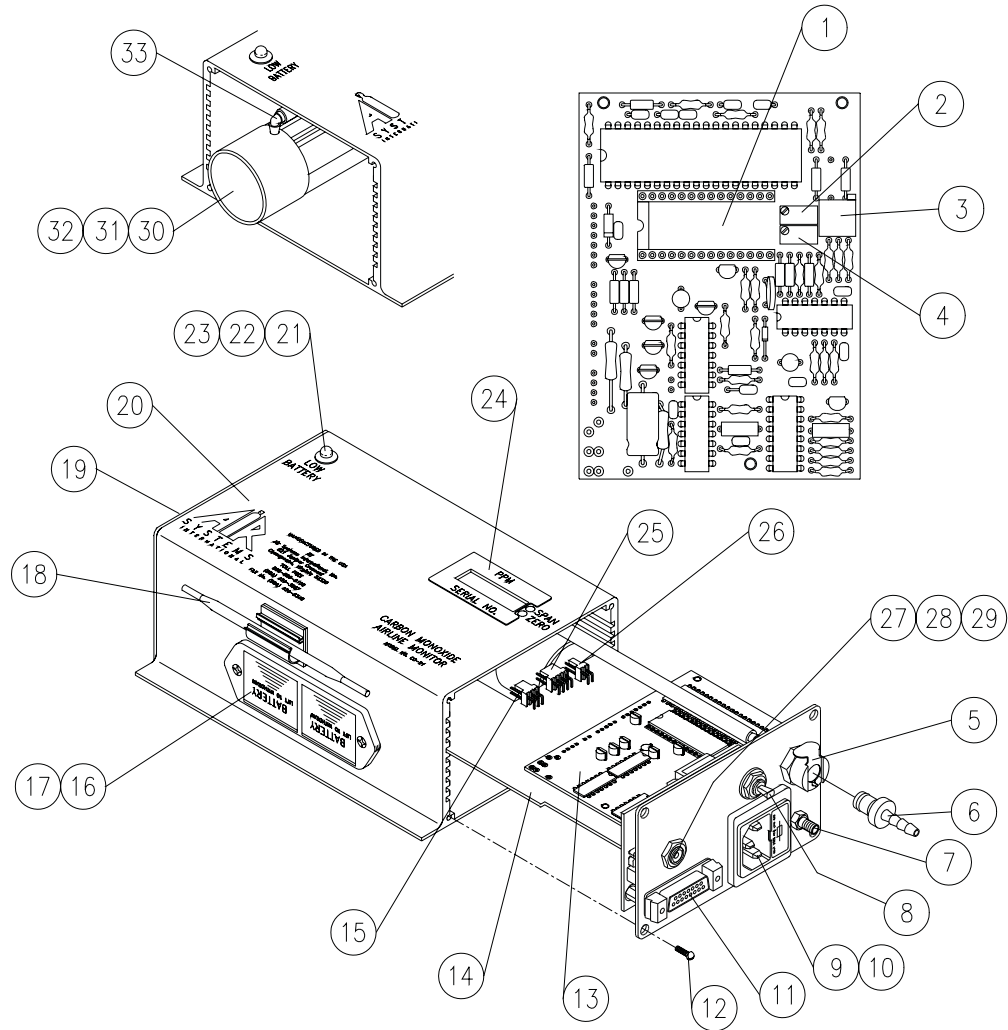
## MONITOR SPECIFICATIONS

<b>Size</b>	2.75"H x 6.57"L x 5.1"W
<b>Weight</b>	2.8 LBS. (1.27KG)
<b>Case</b>	Extruded aluminum - Anodized black
<b>Voltage</b>	115 VAC and/or 9 - 16 VDC
<b>Shielding</b>	Internal RFI/EMI filters
<b>Fuse</b>	115 VAC 1 amp fast acting
<b>Operating Temperature</b>	4 to 113 degrees F (-15.5 to 45 degrees C)
<b>Humidity Range</b>	10% to 90% RH
<b>Flow Requirement</b>	50 - 100 cc
<b>Display</b>	3 digit LCD (CO concentration)

<b>Test Circuit</b>	Manually activated
<b>Sensor Type</b>	Sealed electrochemical sensor for Carbon Monoxide
<b>Accuracy</b>	+/- 1% full scale
<b>Response</b>	90% in 10-15 seconds
<b>Detectable Range</b>	0 - 200ppm CO
<b>Calibration</b>	Manual CO zero and span adjustments
<b>Alarm Setting</b>	10ppm CO (5ppm Canadian)
<b>Warning Signals</b>	Normal operation - Green light High CO - Red Light High CO - Audible Alarm Low Battery - Amber Light
<b>Warranty</b>	2 years from original date of purchase

## WIRING SCHEMATIC





ITEM #	DESCRIPTION	PART #
1	LCD DISPLAY	MONC703
2	SPAN POTENTIOMETER	MONC702A
3	ALARM SET POINT POTENTIOMETER	MONC702A
4	ZERO POTENTIOMETER	MONC702
5	AIR SAMPLE INLET SOCKET	MONC001
6	AIR SAMPLE PLUG	MONC002
7	AIR EXHAUST PORT	MONC003
8	ON/OFF/TEST SWITCH	MONC007
9	RECESSED PLUG WITH FUSE HOLDER	MONC020
10	1 AMP FAST ACTING FUSE, 5 X 20MM	ELF001
11	15 PIN SOCKET	MONC520
12	FACEPLATE/ENDPLATE SCREW	MONC023
13	MAIN CIRCUIT BOARD ASSEMBLY	CO-91PCB
14	POWER SUPPLY BOARD	CO-91PSB
15	SENSOR CONNECTOR (SOLDERED TO PCB)	MONC509
16	BATTERY BOX	MONC006
17	9 VOLT BATTERY	ELB9V
18	CALIBRATION TOOL	MONC028
19	END PLATE	CO-91BEP
20	ALUMINUM HOUSING	CO-91HOU
21	LED SOCKET	MONC009LA
22	YELLOW LED	MONC008NS
23	LED SOCKET AND YELLOW LED	CO-91LED
24	PPM/SERIAL NO. STICKER	MONC031
25	BATTERY BOX CONNECTOR (SOLDERED TO PCB)	MONC516
26	LED CONNECTOR (SOLDERED TO PCB)	MONC511
27	12 VDC POWER SOCKET	MONC522
28	12 VOLT POWER PLUG	ELJP018
29	12 VOLT CABLE	ELCB035
30	CO SENSOR	CO-91NS
31	CO SENSOR HOLDER	MONC810
32	CO SENSOR ELECTRICAL LEADS	CO-91SL
33	90 DEGREE HOSE BARB	MONC811

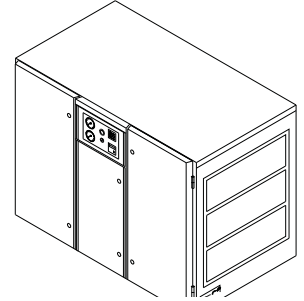
## BREATHER BOX™ SETUP AND OPERATION

**Note: Always operate the Breather Box™ in the upright position. Failure to comply may result in one or all of the following:**

- Auto drains will not function properly. This may result in the contamination of the CO monitor and cause water to be passed through respirator hose and into the worker's mask.
- Auto drains may become clogged, clean or replace auto drains (See Maintenance Instructions.)
- Filters may accumulate moisture and/or contamination, replace if necessary.

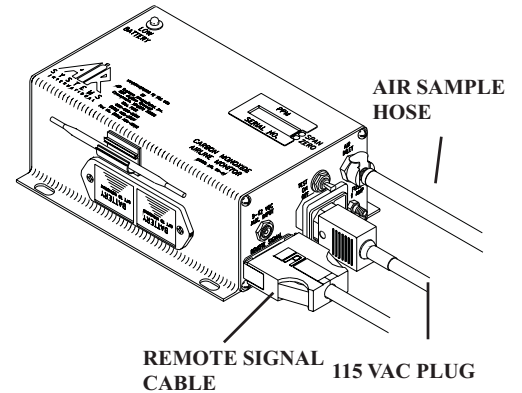
### STEP 1)

Secure a primary air source of sufficient air flow and discharge pressure. The number and type of respirators being used determines the flow rate and pressure required.



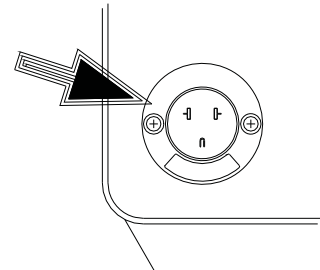
### STEP 2)

Check airline monitor for fresh 9-volt batteries and turn the unit on. Connect the remote signal cable, 115 VAC plug, and air sample hose to the monitor. **Note: Remote signal cable does not apply to BB15 series.** Place the "ON/OFF/TEST" switch to the "ON" position. Allow 30 seconds for the readout to stabilize. If a reading other than "ZERO" is displayed, calibration of the monitor may be necessary. See calibration procedure.



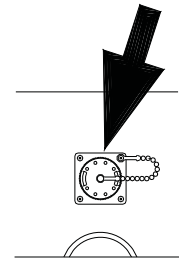
### STEP 3)

Connect the extension cord to a 115 VAC receptacle. **Note: The CO monitor can run off the twin 9-volt batteries if no AC power is available.**



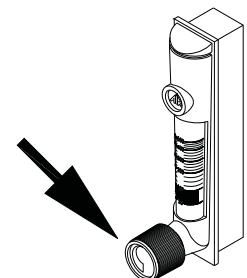
### STEP 4)

Connect the remote alarm assembly (optional) to the remote alarm jack. **Note: Does not apply to BB15 series.**



### STEP 5)

Close the flowmeter by turning the control knob fully clockwise.

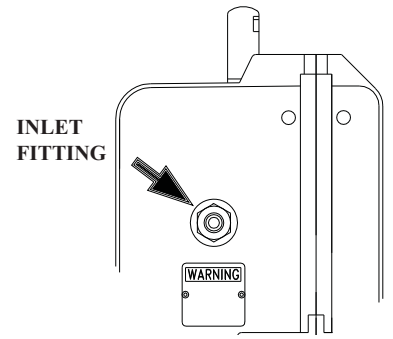




**STEP 6)**

Connect the air source to the inlet fitting.

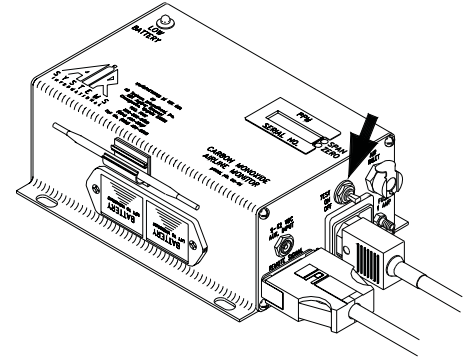
MODEL #	MIN. HOSE ID	INLET FITTING
BB15-CO	3/8"	1/4" INDUSTRIAL INTERCHANGE
BB30-CO	1/2"	1/2" INDUSTRIAL INTERCHANGE
BB50-CO	1/2"	1/2" INDUSTRIAL INTERCHANGE
BB75-CO	1/2"	1/2" INDUSTRIAL INTERCHANGE
BB100-CO	1/2"	1/2" INDUSTRIAL INTERCHANGE
BB150-CO	3/4"	1" CHICAGO FITTING



**STEP 7)**

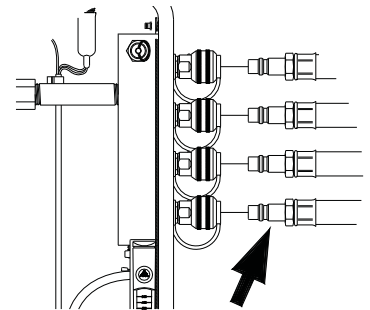
Hold the “ON/OFF/TEST” switch in the “TEST” position. All local and remote audible/visual indicators will activate. If indicators do not activate, check all electrical connections, then call factory repair department.

*Note: An alarm function test can be performed at any time by lifting the “ON/OFF/TEST” switch to the “TEST” position.*



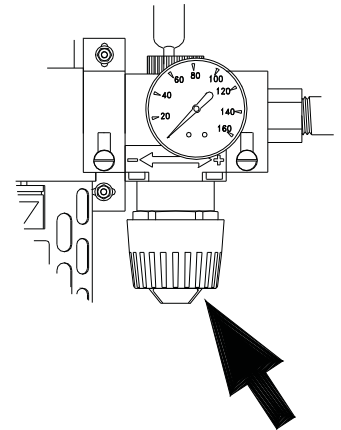
**STEP 8)**

Attach the desired respirators and lengths of hose to the quick connect outlet couplings. *Note: Some models may not have respirator connections. They can be ordered with NPT outlets for connection to points of attachment.*



**STEP 9)**

Adjust the outlet pressure to the setting recommended by the respirator manufacturer. Turn the knob clockwise to increase pressure, counterclockwise to decrease pressure.



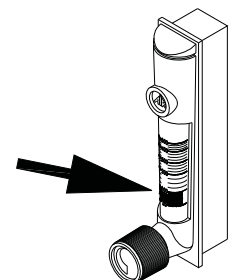
**STEP 10)**

Adjust CO monitor air sample flow rate by turning the flowmeter control knob counterclockwise until the float hovers in the green bar area (approximately 50-100 cc/min). The box is now ready for operation.

The instrument will analyze the air sample and display the CO concentration in parts-per-million (ppm). The system’s green “NORMAL” operation light will illuminate, and the red “HIGH CO” light will flicker faintly approximately every second when the CO level is below 10ppm (5ppm Canadian).

When the CO concentration level exceeds the alarm set point, the green “NORMAL” light will turn off, the red “HIGH CO” light illuminates, the audible alarm will sound, and the remote alarm connections will energize.

When CO concentrations drop below the alarm set point, all alarm indicators will deactivate, and return to “NORMAL” operation.

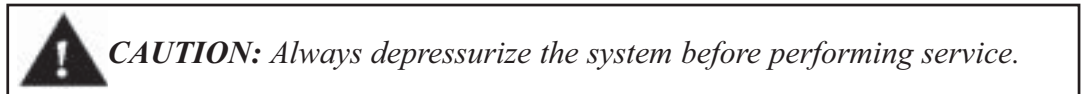




## SHUTDOWN

- 1) Make sure all personnel have egressed from the work area.
- 2) Shut off air source to the box.
- 3) Remove air pressure from the box by pulling the relief valve ring out.
- 4) Turn monitor "OFF" at the "ON/OFF/TEST" switch. Do not remove 9-volt batteries. These are used to maintain a bias voltage to the sensors; this keeps the sensor ready for immediate future use.
- 5) Disconnect airline hoses.
- 6) Install dust caps if applicable.

## SYSTEM MAINTENANCE



**Filter Housing/Bowls:** Periodic cleaning of the polycarbonate bowls may become necessary. Remove the auto drains. Clean the bowls with a mild soapy solution. Reinstall into the filter housing.

**Auto Drains:** The automatic drains are designed to remove bulk liquid contaminants. The drains (1st & 2nd stages only) will automatically drain the liquids after the level has reached 1/3 of the bowl capacity. For periodic cleaning, use a mild soapy solution.

**Filter Change:** The filtration system consists of a filter change indicator which will gradually change from green to orange when filter life is spent. (Not available on BB15 series)

*Note: Air must be flowing through the filtration unit before the filter change indicators will function.*

**Drain Lines:** Make sure the auto drain tubes are placed in the holes at the bottom of the box to allow the liquids to drain outside of the box.

**Calibration:** Monitor calibration should be done monthly or whenever the reading may be questionable. A calibration date sticker should be affixed for future reference. To obtain an accurate calibration, we recommend the use of Air Systems' calibration kits.

**Part Number:**

**BBK-20** Calibration kit for CO monitor, 20ppm CO, zero air, regulator and case - 17 liter size.

**BBK-10** Canadian Calibration kit for CO monitor, 10ppm CO, zero air, regulator and case - 17 liter size.

**BBK-20103** Calibration kit for CO monitor, 20ppm CO, zero air, regulator and case - 103 liter size.

To assure sensor accuracy, calibration of the monitor is required. If you cannot obtain an accurate calibration sensor replacement may be necessary. *Consult Repair Service Department before ordering.*

**Part Number:**

**CO-91NS** New Replacement Carbon Monoxide Sensor

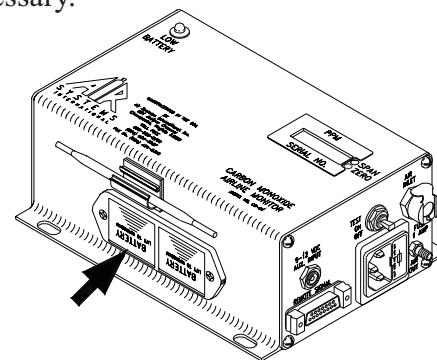
**Battery Replacement:** Replace 9-volt batteries when the amber "LOW BATTERY" light illuminates. If the monitor is not used for 90 days, check the 9-volt battery condition and replace if necessary.

## MONITOR BATTERY REPLACEMENT

These batteries continuously provide a required bias voltage to the CO sensor and power the monitor in the event of AC power loss. If AC and DC power are removed for a period of 2 hours or more, a 1 hour restabilization period is required on the sensor as erratic readings may occur.

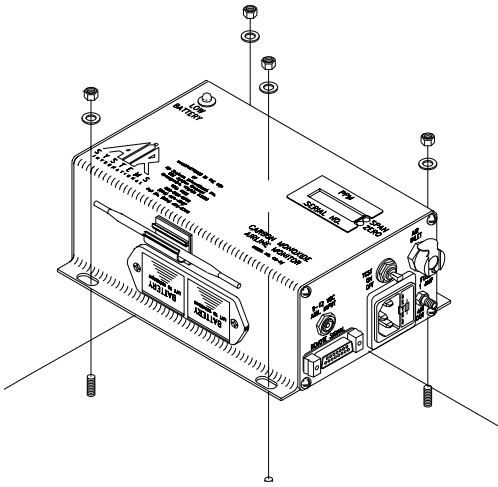
**Batteries approved for use are:**

1. Panasonic Industrial Alkaline Battery - 9 VDC Model No. 6AM - 6PI 9V
2. Duracell Alkaline Battery - 9 VDC Model No. MN1604B2
3. Eveready Battery (Energizer) Alkaline 9VDC - Model No. 6LR61-6AM6-9V



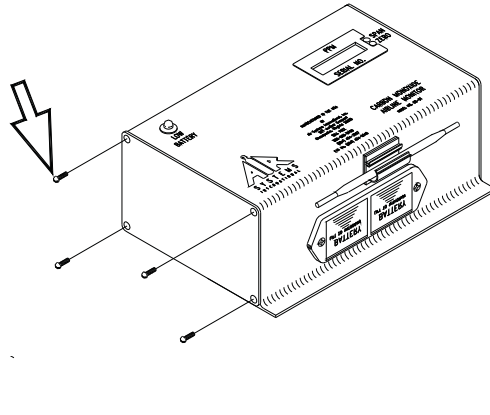
## SENSOR REPLACEMENT

Replacement sensors are shipped with a metal spring installed between the electrodes. **Do not** remove the clip until the sensor is to be installed into the monitor.



### STEP 1)

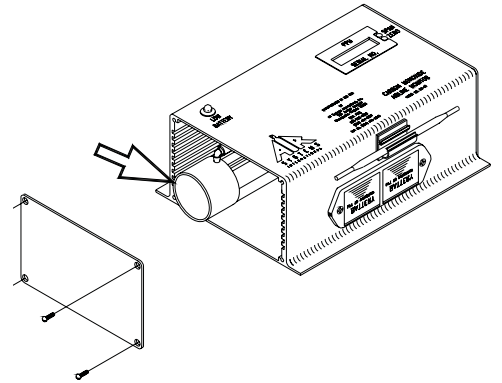
Disconnect all external connections.  
Remove CO monitor from the unit.



### STEP 2)

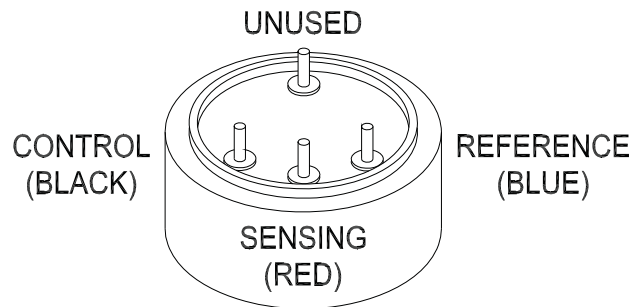
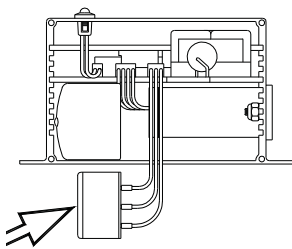
Remove the four screws from the monitor's left end plate.

*Note: Alarm location may vary.*



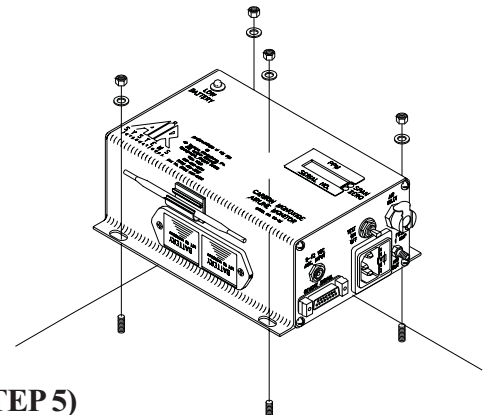
### STEP 3)

Remove end plate to gain access to the sensor cup from outside the housing.



### STEP 4)

Remove sensor from sensor cup and remove leads. Take the new sensor and remove the metal spring. Reattach leads to the proper colored terminals on the new sensor. Install new sensor into sensor cup.



### STEP 5)

Reassemble monitor and install back into system. Connect all external connections. Allow monitor to stabilize 30 minutes to 1 hour and recalibrate.

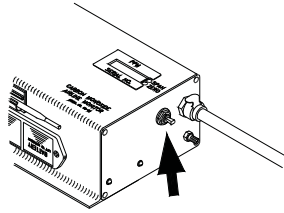
## CALIBRATION PROCEDURE

***Do not use inert gases to zero the monitor. This will cause premature failure of the sensor.***

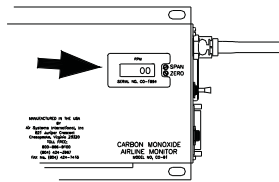
### CO Zero Adjustment

To zero the instrument, follow the steps below. Zero calibration gas should be used to properly “zero” the instrument and assure that a valid calibration is achieved. If zero adjustment cannot be made as indicated, sensor replacement may be necessary. ***After each monitor adjustment outlined in the following steps, allow time for the changes to stabilize.***

1. Place the “on/off/test” switch to the “on” position.

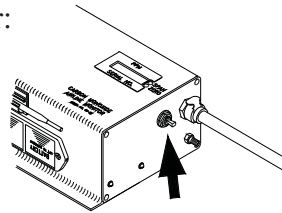


2. Allow 30 seconds for the readout to stabilize.  
The green indicator light will illuminate.



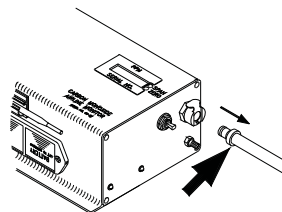
3. Hold the “on/off/test” switch in the “test” position. The following will occur:

- Audible alarm will sound
- Green indicator LED will flash
- Amber low battery indicator LED will illuminate
- Red lamp on

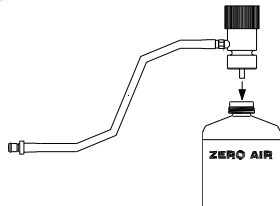


This test ensures the circuitry is operable and the continuity to the sensor is proper. Release the switch.

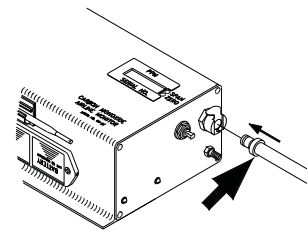
4. Remove air sample inlet tube.



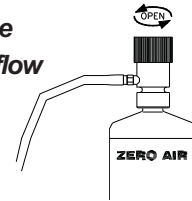
5. Install regulator on the zero air cylinder reference gas.



6. Attach the clear tubing with male plug to the monitor air sample inlet.

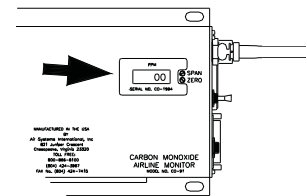


7. Open gas regulator fully by turning the knob at least two (2) turns counterclockwise.

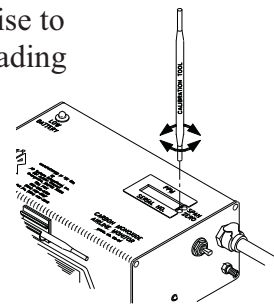


***Note: A controlled orifice in the regulator will allow the gas to flow at approximately 300 cc/min.***

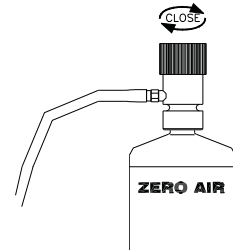
8. Allow digital readout to stabilize approximately 15 - 30 seconds.



9. Adjust "zero" pot adjustment screw (clockwise to increase, counterclockwise to decrease) until a "00" reading is obtained.



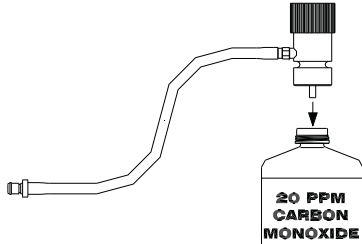
10. Turn off the regulator and disconnect the tubing from the zero air regulator.



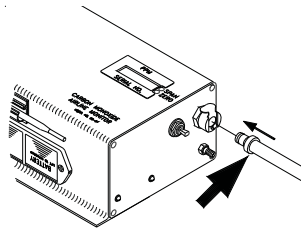
## CO SPAN ADJUSTMENT

*Use only 10 - 20 ppm CO gas for calibration. Using a higher concentration may decrease accuracy at lower scale readings. Note: 10ppm gas must be used to satisfy Canadian calibration requirements.*

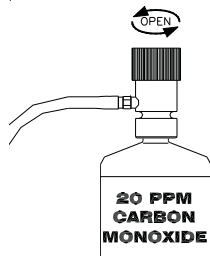
1. Install regulator to the CO calibration gas cylinder.



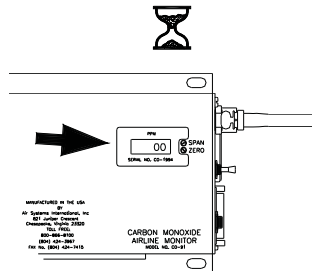
2. Connect the plug to the monitor.



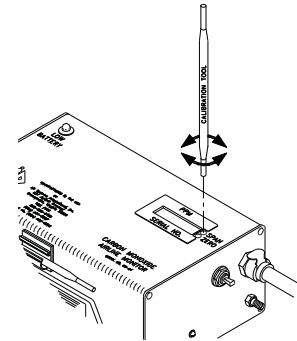
3. Open gas regulator fully by turning the knob at least two (2) turns counterclockwise.



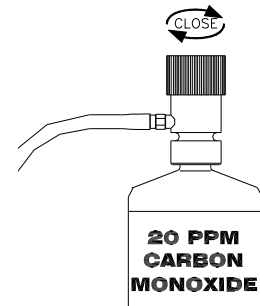
4. Allow digital display to stabilize approximately 15 - 30 seconds.



5. Adjust the "span" pot adjustment screw (clockwise to increase, counterclockwise to decrease) until the digital display reads the same concentration (ppm) as printed on the calibration gas cylinder.

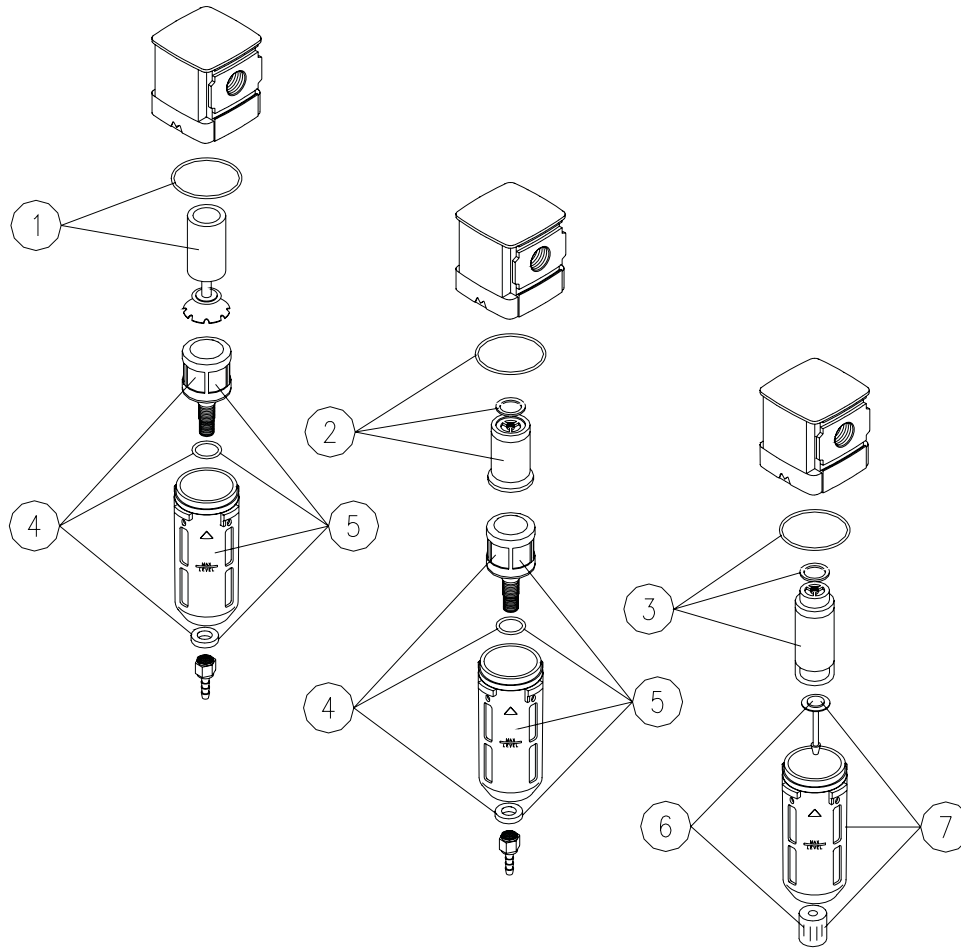


6. Turn regulator off and repeat "zero" adjustment procedure above. Display should return to a "00" reading.



**THE MONITOR IS NOW CALIBRATED AND SHOULD BE RECALIBRATED MONTHLY OR IF ACCURACY IS QUESTIONABLE. CHECK LOCAL REQUIREMENTS AND RECALIBRATE AS REQUIRED.**

## MODEL BB15-CO REPLACEMENT FILTER BREAKDOWN

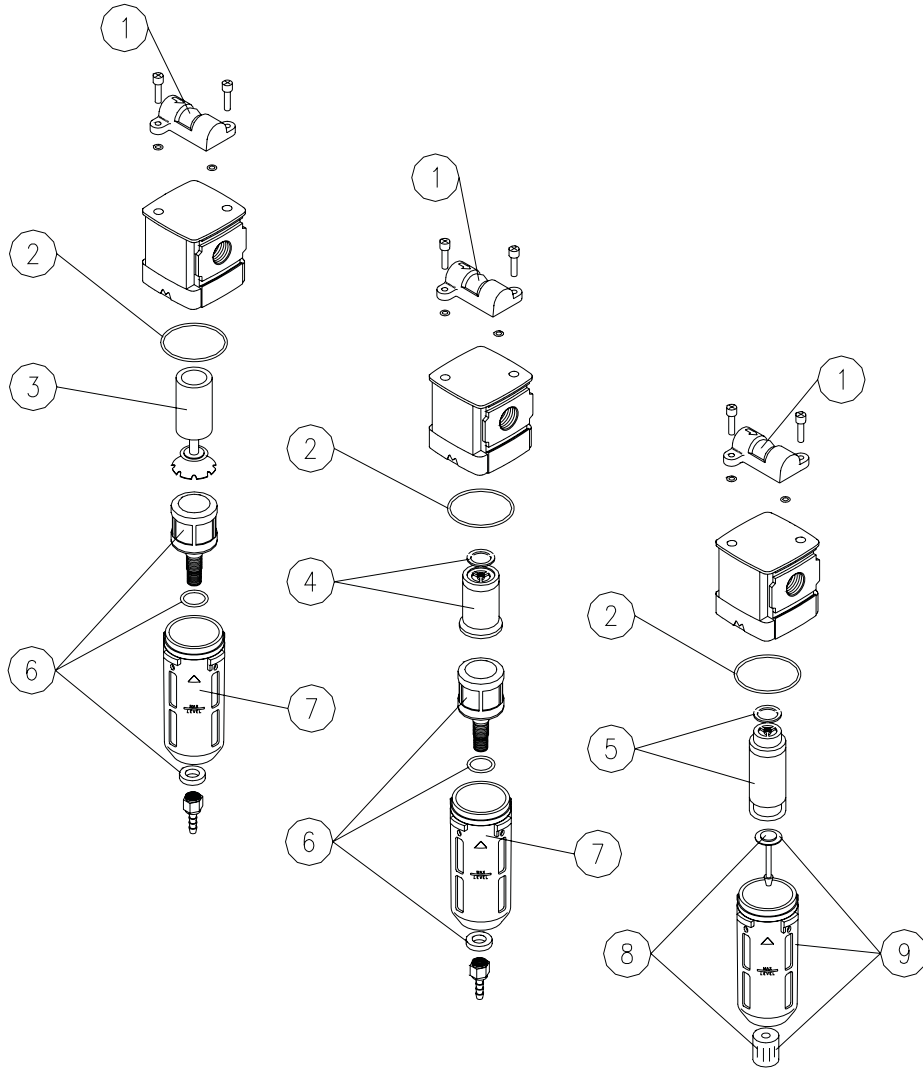


ITEM #	DESCRIPTION	P/N
1	"A" FILTER ELEMENT AND O-RING	BB15-AW
2	"C" FILTER ELEMENT AND O-RING	BB15-CW
3	"D" FILTER ELEMENT AND O-RING	BB15-DW
4	AUTO DRAIN ASSEMBLY	15ADW
5	FILTER BOWL W/AUTO DRAIN	15-PBAW
6	MANUAL DRAIN	15MDW
7	FILTER BOWL W/MANUAL DRAIN	15-PBMW

\* INCLUDED WITH FILTER ELEMENTS

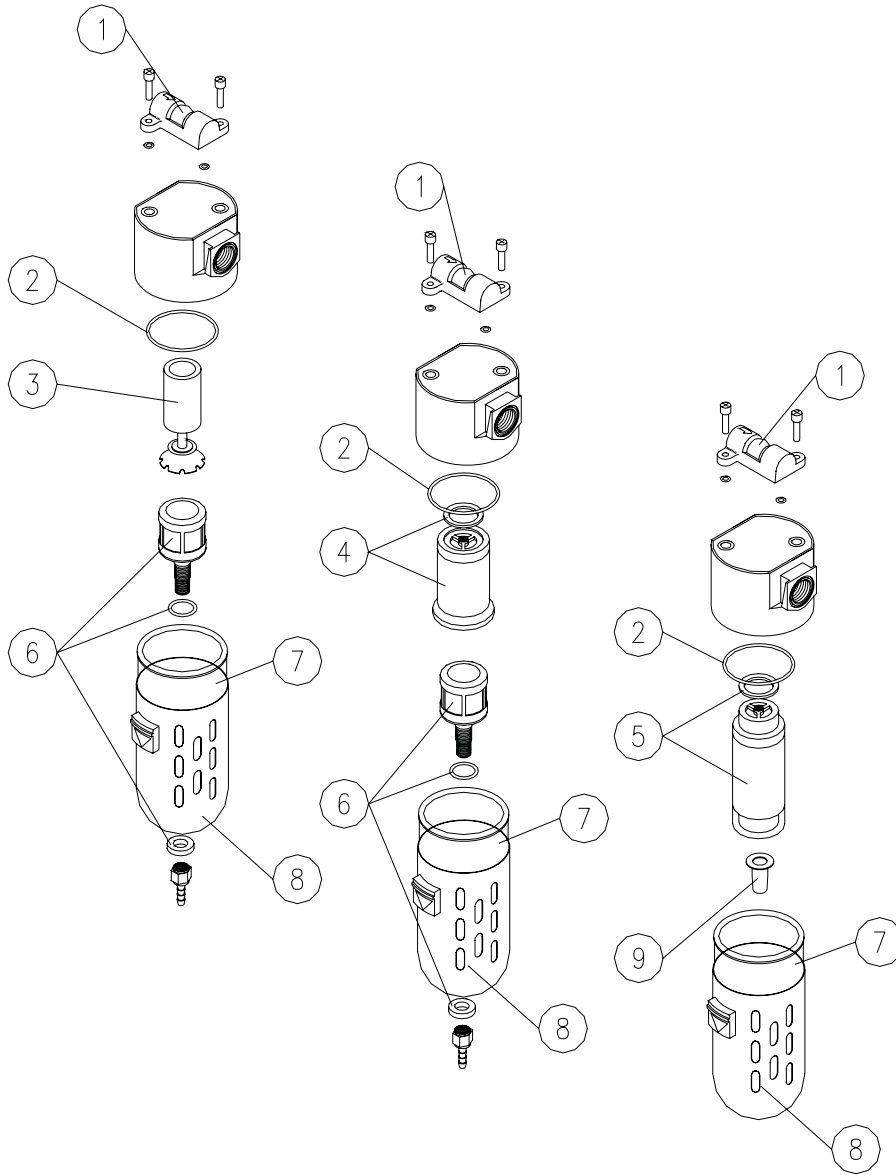
**NOTE: FOR UNITS PURCHASED PRIOR TO 12/04, PLEASE CONTACT CUSTOMER SERVICE FOR CORRECT ORDERING INFORMATION ON FILTER REPLACEMENT ELEMENTS.**

# MODEL BB30-CO REPLACEMENT FILTER BREAKDOWN



ITEM #	DESCRIPTION	P/N
1	FILTER CHANGE INDICATOR	WL261
2	FILTER BOWL O-RING	WL266
3	"A" FILTER ELEMENT	BB30-A
4	"C" FILTER ELEMENT	BB30-C
5	"D" FILTER ELEMENT	BB30-D
6	AUTO DRAIN ASSEMBLY	WL024
7	FILTER BOWL W/GUARD	WL264
8	MANUAL DRAIN	WL262
9	FILTER BOWL W/GUARD & MANUAL	WL267

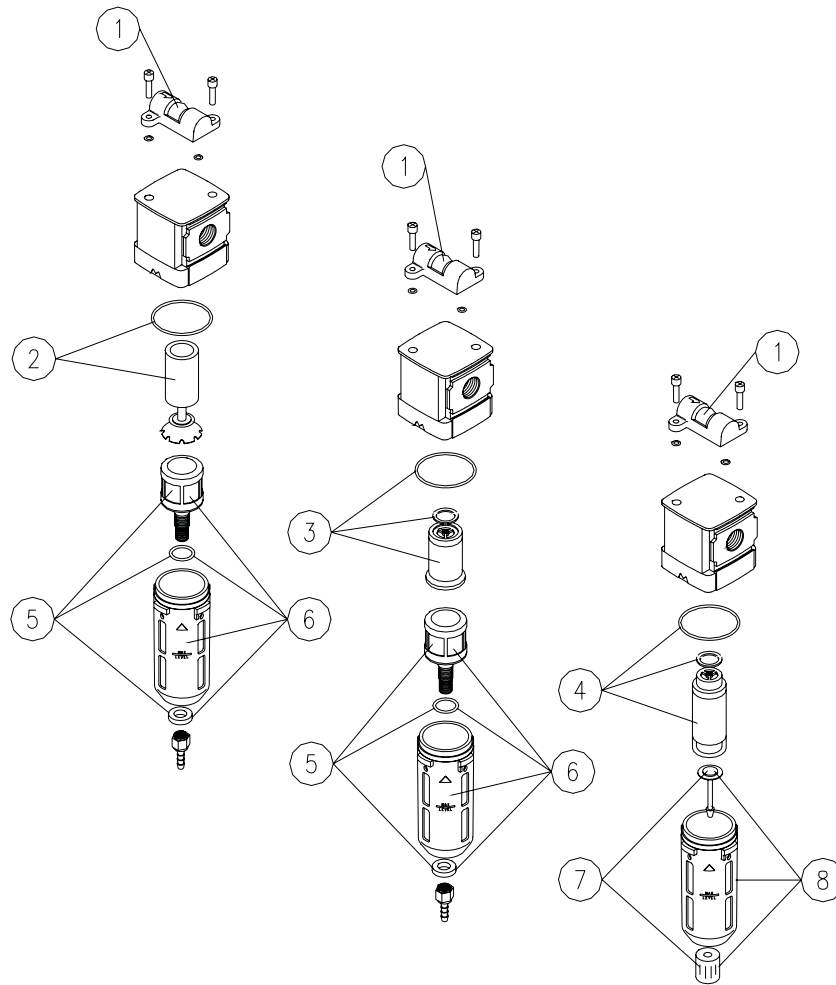
## MODEL BB50-CO REPLACEMENT FILTER BREAKDOWN



ITEM #	DESCRIPTION	P/N
1	FILTER CHANGE INDICATOR	WL056
2	FILTER BOWL O-RING	WL091
3	"A" FILTER ELEMENT	BB50-A
4	"C" FILTER ELEMENT	BB50-C
5	"D" FILTER ELEMENT	BB50-D
6	AUTO DRAIN ASSEMBLY	WL024
7	PLASTIC FILTER BOWL	WL049
8	METAL BOWL GUARD	WL094
9	MANUAL DRAIN	WL153



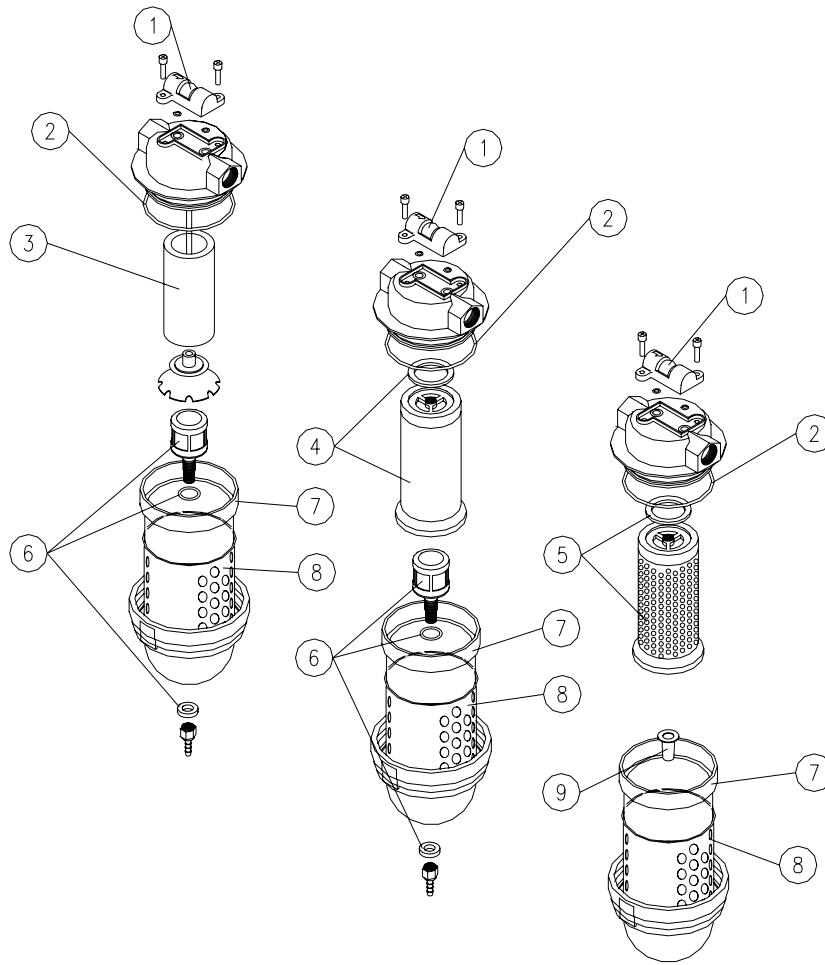
## MODEL BB75-CO REPLACEMENT FILTER BREAKDOWN



ITEM #	DESCRIPTION	P/N
1	FILTER CHANGE INDICATOR	WL261
2	"A" FILTER ELEMENT AND O-RING	BB75-A
3	"C" FILTER ELEMENT AND O-RING	BB75-C
4	"D" FILTER ELEMENT AND O-RING	BB75-D
5	AUTO DRAIN ASSEMBLY	WL024
6	FILTER BOWL W/AUTO DRAIN	WL187
7	MANUAL DRAIN	WL262
8	FILTER BOWL W/MANUAL DRAIN	WL188

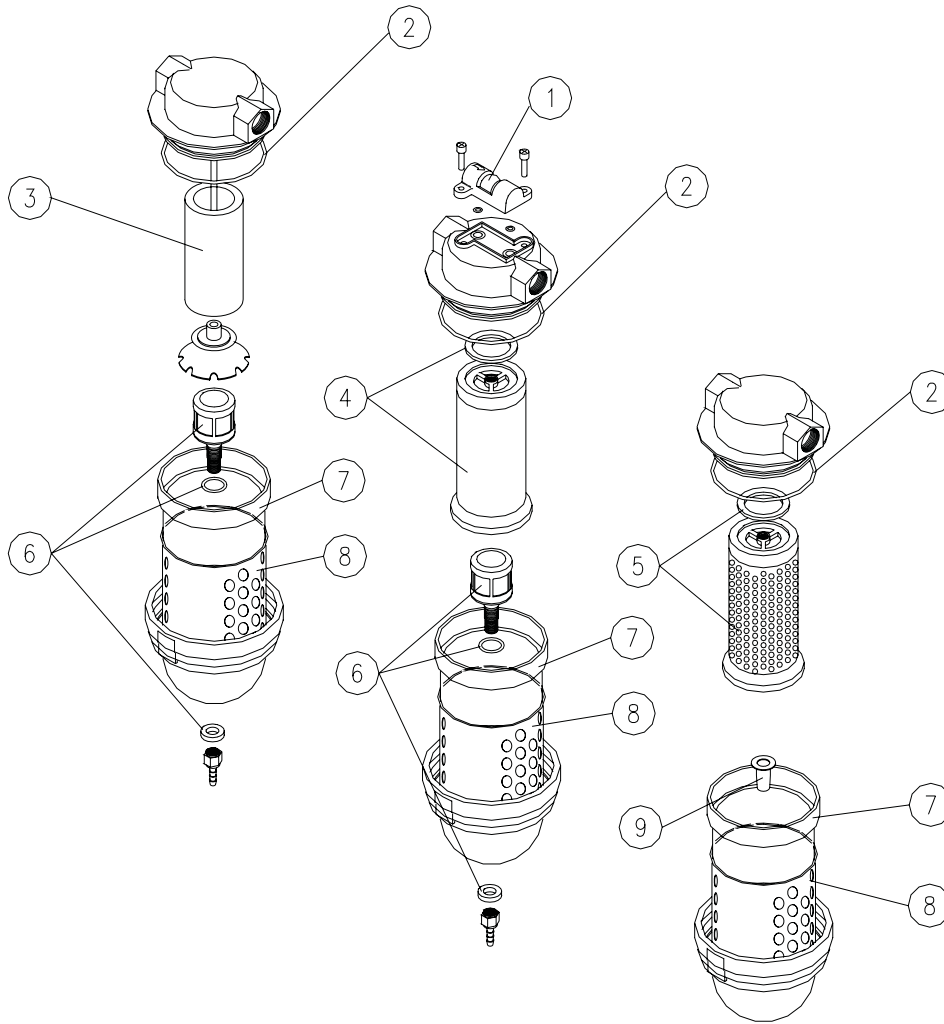
\* Must Order the 4-outlet or 6-outlet manifold. Unit comes standard with 1/2" FPT inlet/outlet unless otherwise specified.

# MODEL BB100-CO REPLACEMENT FILTER BREAKDOWN



ITEM #	DESCRIPTION	P/N
1	FILTER CHANGE INDICATOR	WL056
2	FILTER BOWL O-RING	WL113
3	"A" FILTER ELEMENT	BB100-A
4	"C" FILTER ELEMENT	BB100-C
5	"D" FILTER ELEMENT	BB100-D
6	AUTO DRAIN ASSEMBLY	WL024
7	PLASTIC FILTER BOWL	WL055
8	METAL BOWL GUARD	WL092
9	MANUAL DRAIN	WL153

## MODEL BB150-CO REPLACEMENT FILTER BREAKDOWN



ITEM #	DESCRIPTION	P/N
1	FILTER CHANGE INDICATOR	WL056
2	FILTER BOWL O-RING	WL113
3	"A" FILTER ELEMENT	BB100-A
4	"C" FILTER ELEMENT	BB100-C
5	"D" FILTER ELEMENT	BB100-D
6	AUTO DRAIN ASSEMBLY	WL024
8	PLASTIC FILTER BOWL	WL055
9	METAL BOWL GUARD	WL092
10	MANUAL DRAIN	WL153

### ***Warranty Disclaimer***

Air Systems' manufactured equipment is warranted to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined by Air Systems to be defective in material or workmanship will be, as the exclusive remedy, repaired or replaced at Air Systems' option. This warranty does not apply to electrical systems or electronic components. Electrical parts are warranted, to the original user, for 90 days from the date of sale. During the warranty period, electrical components will be repaired or replaced at Air Systems' option.

**NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER IS GIVEN BY AIR SYSTEMS IN CONNECTION HEREWITH. UNDER NO CIRCUMSTANCES SHALL THE SELLER BE LIABLE FOR LOSS OF PROFITS, ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES OR DAMAGES ARISING OUT OF DEFECTS IN, OR FAILURE OF THE PRODUCT OR ANY PART THEREOF.**

The purchaser shall be solely responsible for compliance with all applicable Federal, State and Local OSHA and/or MSHA requirements. Although Air Systems International believes that its products, if operated and maintained as shipped from the factory and in accordance with our "operations manual", conform to OSHA and/or MSHA requirements, there are no implied or expressed warranties of such compliance extending beyond the limited warranty described herein. Product designs and specifications are subject to change without notice. **Rev 2 12/98**

***Air leaks are not covered under warranty except when they result from a defective system component, i.e. an on/off valve or regulator or upon initial delivery due to poor workmanship. Air leaks due to poor delivery or damage will be covered under delivery claims. Minor air leaks are part of routine service and maintenance and are the responsibility of the customer just as are filters and oil changes.***