

Blow By Sensor Installation Tips

The Blow By Sensor lets you measure the CFM flow from your crankcase. To be accurate you should seal up the crankcase, valve covers, etc. You should eliminate any type of PCV valve, or routing of the crankcase vapors out of the engine. Typically you will have the breather of one rocker cover as being the only outlet of blow by gasses.

You will route this outlet to the inlet of the Blow By Sensor with a long (6 ft, 2 meters or more), large diameter (5/8", 14 mm or larger), non restrictive hose. This helps protect the sensor from engine heat and helps isolate it from engine vibration. After the sensor, vent these gases with a large diameter, non-restrictive hoses to a safe, well ventilated area. **Blow by gases are exhaust which has passed by the piston rings and should not be breathed.**

The Blow By sensor should be mounted approximately level, with the side with the 2 ball plugs on top. The round section with the notch for the sensor lead is the upstream side of the sensor. See Figure 1. The label's arrow will show this also.

Because the sensor is very sensitive, you want to isolate the sensor from engine vibration. This is accomplished by keeping the hose between engine and sensor long (6 ft or more) to keep space between the engine and sensor. On 1 cylinder engines, because of strong crankcase pressure pulsations, you will likely want to put extra volume (a plenum) in this line. See Figure 2. This volume should be quite large, about 10-20 times larger then the engine displacement (200 cc engine needs 2000 to 4000 cc plenum, 2-4 liters or about 0.5 to 1 gallon).

The sensor may collect liquid from condensation and oil vapors. You should periodically check by removing hoses and letting hoses drain, and tipping condensation out of both sides of sensor. When moving sensor which has accumulated liquid, be careful to keep the ball "plugs" up, so liquid can not get to this top side of the channel inside the meter.

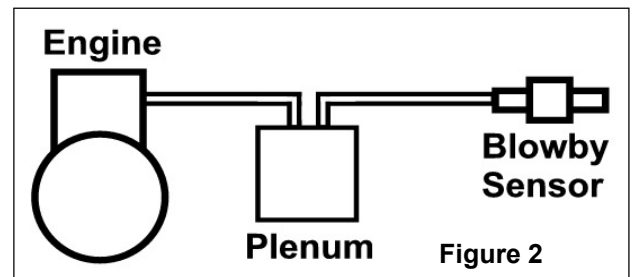
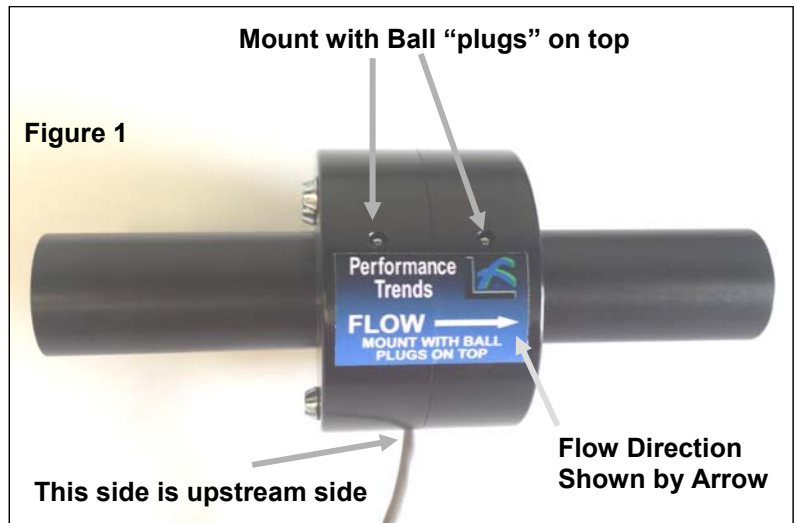
In the DataMite software, pick Blowby Sensor as the Type, and then enter the Range for your particular sensor as shown in Figure 2. In older versions of the software or non-Datamite applications, you must enter a table of values because the response is non-linear. Contact Performance Trends for this table.

You can type in any Data Name you want.

The Blow By Sensor **does** put a small restriction on the blowby flow, and therefore does put a small pressure on the crankcase. A signal of 2 volts (about half full scale CFM) will produce 0.15 psi pressure. At full scale of 5 Volts (full scale CFM), the pressure will be about 0.6 psi.

For non-DataMite wiring to customer's connector:

- Black is ground (bare shield wire can be connected to ground also, or cut off)
- Red is 4.75 to 5.25 V power
- White is signal (A 47uF cap can be connected between black and white to stabilize signal. If blue capacitor is supplied, the indented end goes to white wire. Some capacitors have a black bar arrow showing a "-". This arrow points to the end which goes to the black wire.)



Dyno DataMite v4.1 Performance Trends [3XY red track bike run34.CFG]

File Edit Graph Report Test Conds Engine DataMite Dyno Preferences Help

Start DataMite Specs

DataMite III USB Com 8 Find Weather Station

Rate, samples/sec 50

15.24

Click on DataMite

Choose Blowby Sensor as the Type.

Enter Blowby (or something similar) as the Data Name.

Enter the Range of your sensor, in this case 3 CFM.

Click on Sensor and Calibration for channel you have the Blowby connected to.

When done, click on Keep Specs.

Analog Sensor Specs

Calib 3 CFM Blowby Sensor

Analog Sensor Specs

Type Blowby Sensor

Data Name Blowby Details

Range 3

Analog Sensor Specs

1st Value, Engineering Units

1st Value, volts Read

2nd Value, Engineering Units

2nd Value, volts Read

Signal Based On 0-5 Volts

Correction Read 0

Note: Pick the type of sensor as Specs as necessary (or if calibration table provided 'Correction' factor is mean the calibration is complete you have entered the calibration for a shock travel sensor, you may want to adjust this to read 0 when the car is at static ride height.

Keep Specs Help Cancel Print

10	Analog 7 (Analog 8 blue)	an 7	
11	Analog 8 (Analog 8 green)	an 8	
12	Analog 9 (Analog 8 white)	an 9	
13	Analog 10	Yes	Board Temp Board Temp
14	Analog 11	Yes	Power/Volts Box Power V