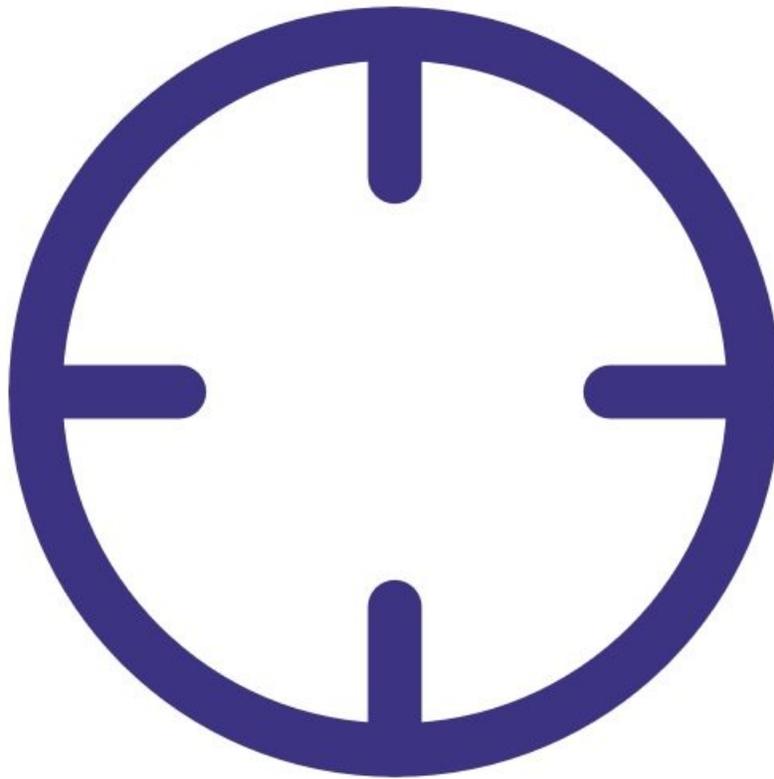




# Check particle monitor for leaks

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## INTRODUCTION

A leak can be caused by loose connections, worn seals (o-rings) or split tubing.

If a leak occurs, this can affect the flow rate which will have a big impact on the accuracy of the measurement.

To understand how often you should perform this service activity, [click here](#).



### PARTS:

- [Leak gauge](#) (1)

## Step 1 — Enter service mode

Normal operation

Calibration and Service | Instrument | Sales & Support Demo AQY (AQY Demo-001)

Calibration

History

Manual Entry

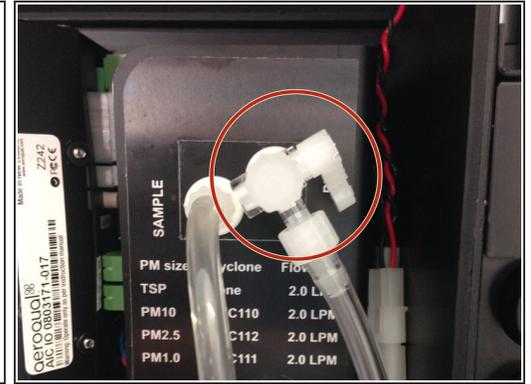
Manual service mode

Calibration parameters								
	NO2 ppb	Ox ppb	O3 ppb	O3 raw ppb	PM2.5 raw µg/m <sup>3</sup>	PM2.5 µg/m <sup>3</sup>	TEMP °C	RH %
Gain	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.00
Offset	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0
a	1.100		2.550					
b			1.870					

Real time measurements								
Time	NO2 ppb	Ox ppb	O3 ppb	O3 raw ppb	PM2.5 raw µg/m <sup>3</sup>	PM2.5 µg/m <sup>3</sup>	TEMP °C	RH %
11:42 a.m.	2.9	29.6	24.2	23.7	1.7	1.1	15.74	86.0
11:41 a.m.	2.8	29.2	24.0	23.5	1.6	1.0	15.63	86.0
11:40 a.m.	3.1	29.7	24.2	23.8	1.9	1.2	15.60	86.0
11:39 a.m.	3.6	30.2	24.1	23.7	1.5	1.0	15.55	87.0
11:38 a.m.	4.7	30.4	23.4	23.0	1.3	0.8	15.48	87.0

- [Enter service mode](#) so any fluctuations in the data caused from this activity can be excluded from air quality reports.

## Step 2 — Open sample & block purge



**⚠** Adjust the sample flow by pulling the adjustment knob outwards, turning the knob to increase/decrease flow, and pushing the knob back in to lock when desired flow has been reached.

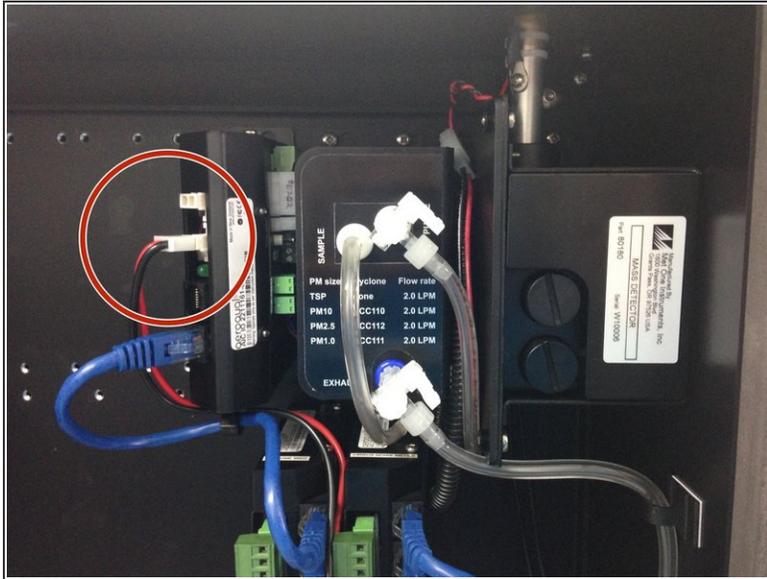
- Fully open the sample flow adjustment valve, which is located on the face plate of the pump module.
- ⓘ On older monitors, the sample flow adjustment valve is positioned at the bottom of the enclosure under the PDI cover.
- Block the purge flow by pinching the purge tube.
- ⓘ On older monitors, fully close the purge valve by pushing the valve handle towards the pump module.

### Step 3 — Attach gauge



- Remove the TSP head and install the vacuum gauge above the sharp cut cyclone.
- Wait for the gauge to stabilise.
- ⓘ The gauge should reach at least -60 kPa while power is connected.

## Step 4 — Observe pressure change



- Stop the the sample and purge pumps by pulling out the black and red power cables from the electronics module.
- Count how long it takes for the pressure to change by 10 kPa.
- ⓘ If the pressure change (leak rate) is greater than 10 kPa in 10 seconds, you'll need to check for loose connections, worn seals (o-rings) or split tubing.
- ⓘ For example, if the needle moves from -70 kPa to -60 kPa in 20 seconds, this is OK, but if it moves from -70 kPa to -60 kPa in 8 seconds, this indicates a leak.

## Step 5 — Record in journal

Instrument ▾ Air Quality Monitor (AQM65 04082015-437) ▾

All journal types ▾

User entry | Cloud user · John Wagner

<p>1. Site Inspection:</p> <p>No new local emission sources Instrument in good condition No obstructions to monitoring equipment</p> <p>3. Equipment:</p> <p>Aeroqual Gas dilution calibrator: Aircal 1000 Aeroqual Ozone calibrator: AQM O3Cal Aeroqual Flow meter: AQM R7</p> <p>4. Flow rate check: Expected flow rate = 0.450 ml per min, Measured flow rate = 0.452 ml per min Main inlet flow rate OK, individual module flow rates were not measured.</p> <p>6. Zero calibration All modules passed zero calibration, all modules were stable and all offsets were within acceptable limits.</p> <p>7. Span Calibration</p> <p>CO @ 10.00 ppm Module response was 8.95 ppm gain adjustment to 1.15 pass SO2 @ 0.2 ppm Module response was 0.210 ppm gain adjustment to 0.92 pass NO2 @ 0.2 ppm Module response was 0.090 ppm gain adjustment to 2.10 pass (module may need replacing soon contact A</p> <p>8 Pack up. Next scheduled calibration 3 months from now. June 2017.</p>	<p>2. Instrument inspection:</p> <p>Cooling fan operational PM and gas inlet secure Instrument has been running at stable</p> <p>4 Gas cylinders:</p> <p>CO 1000 ppm in Air (expiry March) SO2 20 ppm in Air (expiry December) NO2 20 ppm in Air (expiry November)</p> <p>5. Open door and change gas inlet filter</p>
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- [Record the results of this service activity in the monitor's journal.](#)
- [Exit service mode.](#)

For further support, contact [Technical Support](#).