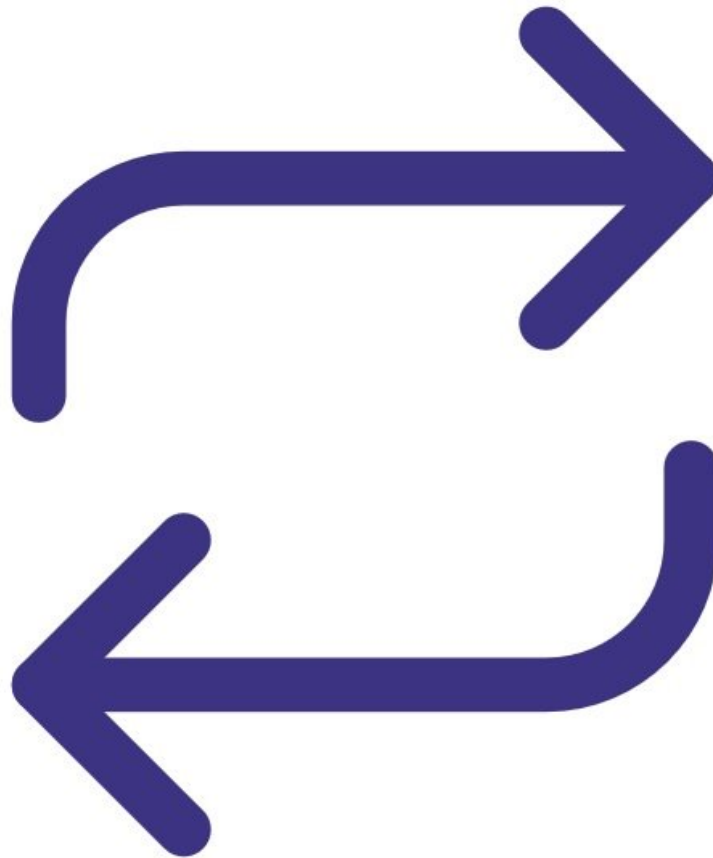




# Replace pump in particle profiler

Written By: Tanya Taylor



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## INTRODUCTION

Typically, the sample pump in the particle profiler lasts between 12 and 18 months. However, it should be replaced when the correct flow is no longer being maintained.

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



### PARTS:

- [Sample pump](#) (1)
-

## Step 1 — Enter service mode

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

Normal operation

Calibration

History

Manual Entry >

Manual service mode Start

Calibration parameters

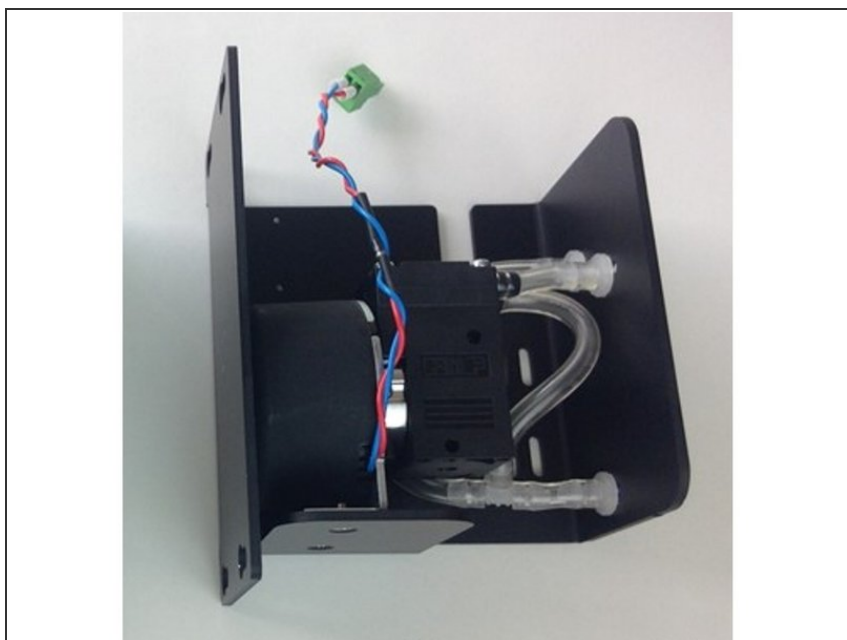
|        | NO2<br>ppb | Ox<br>ppb | O3<br>ppb | O3 raw<br>ppb | PM2.5 raw<br>µg/m³ | PM2.5<br>µg/m³ | TEMP<br>°C | RH<br>% |
|--------|------------|-----------|-----------|---------------|--------------------|----------------|------------|---------|
| Gain   | 1.000      | 1.000     | 1.000     | 1.000         | 1.000              | 1.000          | 1.000      | 1.000   |
| 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<br>ppb | Ox<br>ppb | O3<br>ppb | O3 raw<br>ppb | PM2.5 raw<br>µg/m³ | PM2.5<br>µg/m³ | TEMP<br>°C | RH<br>% |
|------------|------------|-----------|-----------|---------------|--------------------|----------------|------------|---------|
| 11:42 a.m. | 2.9        | 29.6      | 24.2      | 23.7          | 1.7                | 1.1            | 15.74      | 86.1    |
| 11:41 a.m. | 2.8        | 29.2      | 24.0      | 23.5          | 1.6                | 1.0            | 15.63      | 86.1    |
| 11:40 a.m. | 3.1        | 29.7      | 24.2      | 23.8          | 1.9                | 1.2            | 15.60      | 86.1    |
| 11:39 a.m. | 3.6        | 30.2      | 24.1      | 23.7          | 1.5                | 1.0            | 15.55      | 87.1    |
| 11:38 a.m. | 4.7        | 30.4      | 23.4      | 23.0          | 1.3                | 0.8            | 15.48      | 87.1    |

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

## Step 2



- Particle profiler pump module contains only 1 x sample pump.
- The pumps are accessed by removing the pump module assembly. Philips screwdriver can be used to loosen the retaining screws holding the assembly to the back plate of the monitor. Then disconnect and swap out the pump that needs replacing.
- It is recommended that you check the flow rate after replacing the pump.
- [Check / adjust flow rate of particle profiler](#)

Step 3 — Record in journal

Instrument Air Quality Monitor (AQM65 04082015-437)

All journal types

User entry | Cloud user · John Wagner

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

- [Record the results of this service activity in the monitor's journal.](#)
- [Exit service mode.](#)

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