



# Clean sharp cut cyclone

Written By: Tanya Taylor



---

## INTRODUCTION

The sharp cut cyclone uses a small particle trap to collect particle sizes above the sharp cut size of the cyclone. The trap needs to be emptied and cleaned for optimum operation of the particle monitor. The inside surface of the inlet system also needs to be cleaned.


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

---

### TOOLS:

- [Can of compressed air](#) (1)
  - [Isopropyl alcohol](#) (1)
  - [Lint-free wipes](#) (1)
  - [Allen key](#) (1)
-

## Step 1 — Enter service mode



Normal operation

Calibration

History

Manual Entry

Manual service mode Start

**Calibration parameters**

	NO2 ppb	Ox ppb	O3 ppb	O3 raw ppb	PM2.5 raw µg/m³	PM2.5 µg/m³	TEMP °C	RH %
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 ppb	Ox ppb	O3 ppb	O3 raw ppb	PM2.5 raw µg/m³	PM2.5 µg/m³	TEMP °C	RH %
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 — Clean particle trap



- Detach the TSP head from the sharp cut cyclone.
- Screw the particle trap off the cyclone.
- Tip out the particles inside the particle trap.
- Clean the particle trap with compressed air.

### Step 3 — Disassemble cyclone



- Use a 3/32 allen key to disassemble the cyclone.
- ⓘ The cyclone separates in to 2 pieces.

### Step 4 — Clean cyclone



- Clean each piece with compressed air.
- Use a lint-free wipe to clean the inside surfaces of the cyclone.
- Put some IPA on a lint-free wipe to further clean residue from the inside of the cyclone.
- Reassemble the cyclone using the allen key.
- Replace the particle trap.

## Step 5 — Clean TSP head



- Use the same allen key to disassemble the TSP head.
  - ❗ The TSP head separates in to 2 pieces.
- Clean the pieces with compressed air.
- Reassemble the TSP head using the allen key.
- Attach the TSP head to the cyclone.



## Step 6 — 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 Instrument in good condition No obstructions to monitoring equipment	2. Instrument inspection: Cooling fan operational PM and gas inlet secure Instrument has been running at stable
3. Equipment:	Aeroqual Gas dilution calibrator: Aircal 1000 Aeroqual Ozone calibrator: AQM O3Cal Aeroqual Flow meter: AQM R7	4 Gas cylinders: CO 1000 ppm in Air (expiry March) SO2 20 ppm in Air (expiry December) NO2 20 ppm in Air (expiry November)
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.	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 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	
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.](#)

## Step 7 — Video of steps



- To see the cleaning process, watch [this video](#).

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