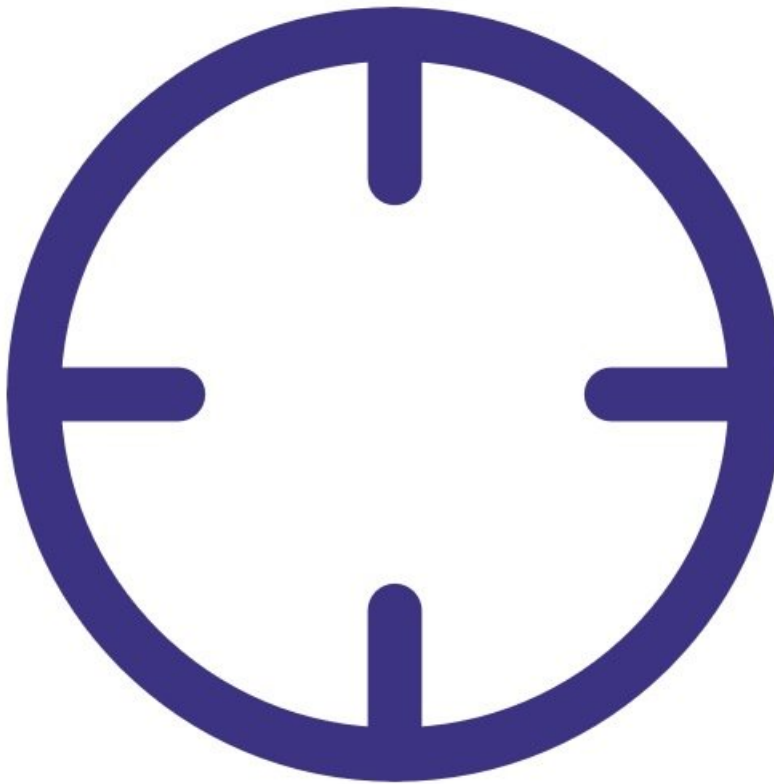




Flow check of the PCX module

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INTRODUCTION

The PCX module has a factory integrated flow sensor will automatically check and maintain the flow rate of the module.

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



TOOLS:

- [Adjustable spanner](#) (1)
 - [Zero filter & flow assembly PCX](#) (1)
 - [Flowmeter - rotameter](#) (1)
-

Step 1 — Check the flow rate (internal)

Diagnostics

Download Data

Module Details

Module Settings

Select parameter

Flow

Averaging period

1 minute

Pause

Export

Time	Flow (L/min)	PWM Value ()	Setpoint Reached ()	Cumulative PM (mg/m ³)	Pressure (Pa)	Temperature (°C*10)	Inlet
3/9/2023 1:28 PM	0.991	378.511	1.000	0.648	101124.000	240.000	Sample
3/9/2023 1:27 PM	1.007	378.515	1.000	0.648	101124.000	240.333	Sample
3/9/2023 1:26 PM	1.005	378.465	1.000	0.648	101126.000	240.250	Sample
3/9/2023 1:25 PM	0.989	378.519	1.000	0.648	101130.000	240.000	Sample
3/9/2023 1:24 PM	1.012	378.496	1.000	0.648	101135.000	240.000	Sample
3/9/2023 1:23 PM	0.984	378.502	1.000	0.648	101139.000	240.000	Sample
3/9/2023 1:22 PM	0.996	378.568	1.000	0.648	101143.000	240.000	Sample
3/9/2023 1:21 PM	0.993	378.605	1.000	0.648	101147.000	240.000	Sample
3/9/2023 1:20 PM	0.997	378.639	1.000	0.648	101152.000	240.000	Sample
3/9/2023 1:19 PM	1.008	378.624	1.000	0.648	101157.000	240.000	Sample
3/9/2023 1:18 PM	1.011	378.572	1.000	0.647	101159.000	240.000	Sample
3/9/2023 1:17 PM	1.010	378.496	1.000	0.647	101162.000	240.083	Sample

- i The PCX module has a factory integrated flow sensor will automatically check and maintain the flow rate of the module.
- The current reading can be seen in Aeroqual Cloud by navigating to the monitor's page
- Go to the 'Diagnostics and Advanced' page
- Go to the 'Diagnostics' tab
- Select the 'Flow' parameter
- i The target flow rate of the PCX module is 1.0 ± 0.05 LPM
- The flow rate as measured by the internal flow sensor should be checked annually to ensure there has been no change.

Step 2 — Fit the flow adapter



- ① The AQS R56x includes a flow adaptor which is fitted on the inlet.
- ① Tubing length should be minimized where possible.
 - Remove the TSP inlet and the o-rings on the inlet
 - Fit the flow adapter.

Step 3 — Calculate the new Gain

$$\text{GAIN} = \text{Current Gain} \times (\text{Flow Sensor Reading} / \text{PCX Flow Reading})$$

- Compare the flow on the flow meter to the value reported in Connect
- ① The value reported by the internal flow sensor is reported as volumetric flow (rather than standard flow). Ensure your flow meter is reporting the same.
- Calculate the new GAIN for the Flow module using the following formula:
GAIN = Current Gain x (Flow Sensor Reading / PCX Flow Reading)

Step 4 — Apply new Gain



- Insert the new GAIN into the flow module setting labelled 'GAIN'
- Return to the Diagnostics and Advanced page, and Diagnostics tab
- Wait 30 seconds for the pump speed to change and stabilized and check

Step 5 — 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 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](#).