

| Table 1: Calibration details | |
|------------------------------|--|
| Date Time | |
| AQM 65 Serial number | |
| Date of previous calibration | |
| Customer name | |
| Site name | |
| Engineer name | |

| Table 2: Equipment details | | |
|----------------------------|---------------------------|---------------|
| Type: | Brand Name / Model number | Serial number |
| Gas dilution calibrator: | | |
| Ozone generator | | |
| Zero air source | | |
| Flow meter | | |
| Gas Regulator 1 | | |
| Gas Regulator 2 | | |

Table 3: Cylinder details

| | Gas | Gas | Gas | Balance | Manufacturer | Expiry date | Cylinder pressure |
|---|---------------|---------------|---------------|---------|--------------|-------------|-------------------|
| | Concentration | Concentration | Concentration | | | | |
| 1 | | | | Air N2 | | | |
| | | | | | | | |
| 2 | | | | Air N2 | | | |
| | | | | | | | |
| 3 | | | | Air N2 | | | |
| | | | | | | | |
| 4 | | | | Air N2 | | | |
| | | | | | | | |
| 5 | | | | Air N2 | | | |
| | | | | | | | |

Table 4: Site inspection: Check the local surroundings to see if anything has changed which could influence the ongoing ambient measurements.

Observation

Table 5: Instrument pre checks

| SOP description | SOP ID | Observation / reading | Pass / Fail / done |
|---|---------------|------------------------------|---------------------------|
| Service mode | 5.1 | | |
| Gas inlet secure | 5.2 | | |
| Particle inlet secure | 5.3 | | |
| Door locks are operational | 5.4 | | |
| Cooling fans are operational | 5.5 | | |
| Check the internal temperature is stable at the set point: ITemp (H0) | 5.6 | | |
| Record the flow rate now | 5.7 | | |
| Replace the inlet filter | 5.8 | | |
| Record the flow rate again | 5.9 | | |
| Previously measured flow rate | | | |
| Go to section 6 if required then record final inlet flow rate here | 5.10 | | |

Table 6: Individual module flow rates, leak check manifold and bypass valve.

| | | | | | | | | | | |
|--|-----|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------|
| Check all gas connections | 6.1 | Pass Fail | | | | | | | | |
| Leak check sampling manifold | 6.2 | Pass Fail | | | | | | | | |
| | | NO2 | NOx | O3 | SO2 | H2S | CO2 | PID | CO | Total module flow |
| Flow rate last measured | | | | | | | | | | |
| Flow rate measured now | 6.5 | | | | | | | | | |
| If flow rate is the same then pass , if changed then fail | | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail |
| Adjust bypass valve | 6.6 | If all of the modules show reduced flow and there is no leak then the adjustment bypass valve can be used. | | | | Yes / No | | | | |
| Flow rate measured following adjustment | 6.7 | | | | | | | | | |
| If flow rate is the same as section 6.3 then pass , if changed then fail . | | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail | Pass Fail |
| What was the reason for the change in flow rate? | | | | | | | | | | |
| Go back to section 5.10 | | | | | | | | | | |

Table 7: Zero calibration results: (circle which units are you using) ppm mg/m⁻³

| Module | Initial offset From instrument settings | Reading after stabilisation 10 minute average | Acceptable reading during zero calibration (ppm) 10 min average | Acceptable noise during zero calibration 10 minute std deviation | New Calculated offset | Minimum and Maximum recommended offset (ppm) | Offset uploaded | Reading after offset changed (after 10 minutes) | Pass Fail |
|-----------|---|---|---|--|-----------------------|--|-----------------|---|-----------|
| | | 7.2.3 | | | 7.2.4 | | 7.2.5 | 7.2.6 | |
| NO2 | | | 0.000 ± 0.002 | 0.002 | | Max +0.050 Min -0.050 | | | |
| NOx | | | 0.000 ± 0.005 | 0.002 | | Max +0.050 Min -0.050 | | | |
| O3 | | | 0.000 ± 0.002 | 0.002 | | Max +0.05 Min -0.05 | | | |
| SO2 | | | 0.000 ± 0.002 | 0.006 | | Max +0.050 Min -0.050 | | | |
| CO | | | 0.000 ± 0.050 | 0.050 | | Max +2.000 Min -2.000 | | | |
| H2S | | | 0.000 ± 0.002 | 0.006 | | Max +0.050 Min -0.050 | | | |
| CO2 | | | 0 ± 20 | 5 | | Max +100 Min -100 | | | |
| PID | | | 0.000 ± 0.020 | 0.010 | | Max +0.500 Min -0.500 | | | |
| Comments: | | | | | | | | | |

Table 8: Span calibration results: (circle which units are you using) ppm mg/m⁻³

| Module | Initial gain from instrument settings | Span point from calibrator | Reading after stabilisation on 10 minute average | Acceptable range during span calibration (ppm) 10 minute average | Maximum acceptable noise during span calibration 10 min std deviation | New Calculated gain | % Change from last gain | Minimum and Maximum recommended gain | Gain uploaded | Reading after gain changed (after 10 minutes) | Pass Fail |
|--------|---------------------------------------|----------------------------|--|--|---|---------------------|-------------------------|--------------------------------------|---------------|---|-----------|
| | | 8.1.3 | 8.1.5 | | | 8.1.6 | 8.1.7 | | 8.1.8 | 8.1.9 | |
| NO2 | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| NOx | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| O3 | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| SO2 | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| CO | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| H2S | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| CO2 | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |
| PID | | | | span ± 5 % | 2 % of span | | | Max 5.000 Min 0.200 | | | |

Comments:

| Table 9: Calibration Post-checks | | | |
|---|---------------|------------------------------|---------------------------|
| SOP description | SOP ID | Observation / reading | Pass / Fail / done |
| Disconnect calibration equipment | 9.1 | | |
| Record total inlet flow rate | 9.2 | | |
| Replace the mesh inlet and cap | 9.3 | | |
| Lock door | 9.4 | | |
| Secure the site | 9.5 | | |
| Service mode | 9.6 | | |