STA Training

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Over the past 20 years, the STA has developed and provided training and revision courses to the industry, the training courses have run at the STA's head offices in Hitchin, Hertfordshire. Not only have delegates attended from all over the UK, the STA training courses also attract attendees worldwide, from Ireland, mainland Europe, Hong Kong, South Africa and the Middle East. The training courses have been developed, updated and delivered by leading experts in the Environmental industry.

2020 has, of course, introduced new challenges for businesses from every sector. 2020 has certainly been the year to adapt and modify traditional working practices, with this in mind the STA investigated hosting their training courses online. Starting with the Risk Assessment course in August 2020, it became clear that there was a demand for online courses. Following on from that the STA has held dozens of online training courses up to the date of this publication and have planned numerous online courses right through to the end of 2021. The training course are carried out live over Microsoft Teams allowing participants and trainers to interact as though they were in the same room. The syllabuses of the STA training courses can be found below.

If you are interested in any courses please visit www.s-t-a.org or contact the STA.

Training Course syllabus

The STA is committed to encourage the personal and professional development of practicing source testers and students and provide training courses on various aspects of emission monitoring.

Risk Assessment - Industrial Emission Monitoring

The course covers all aspects of the "Yellow BOOK" and includes case studies of recent H&S incidents, the use of Risk Assessment, COSHH, safe lifting, Weather Conditions, Electricity and PPE use.

Course Content

The course is presented in six modules;

- The basics of the risk assessment
- General site hazards
- Physical hazards
- Chemical hazards on site
- Chemical hazards in the laboratory
- Weather, Environment and Welfare

Regulatory Monitoring Requirements for Process Operators

The purpose of the course is to provide an understanding of the Environment Agency's MCERTS schemes as part of the requirement of the EA Operator Monitoring Assessment. This will increase process operators' awareness of their role in managing emissions monitoring and so improve their OMA audit score.

Course Content

- Background to Environmental Regulations including IPPC.
- Description of the OMA scheme.
- The role of MCERTS schemes in stack-emission monitoring.
- Introduction to major pollutants
- The nature of emission limits, including reference conditions and units of measurement.
- An understanding of the principles of stack-emission monitoring.
- An appreciation of the importance of correct sampling location for stack emission monitoring
- The practicalities of planning and executing stack-emissions monitoring campaigns including the importance of Risk Assessments.
- Quality checks to ensure robust monitoring data

On Site Auditing

A requirement of the OMA scheme is for process operators to carry out periodic auditing of stack-emission monitoring. On-site auditing refers specifically to checking that the personnel carrying out monitoring do so in accordance with the agreed site-specific protocol (SSP) and documented procedures.
The aim of this one day training course is to provide a basic understanding of stack-emission monitoring to enable process operators, regulators and environmental consultants to audit stack sampling contractors.

Course Content

- Ethical requirements for independence and environmental awareness
- Use of MCERTS certified personnel
- Selection of appropriate methods following international standards
- Method Implementation Documents
- Estimation of measurement uncertainty
- Use of appropriate equipment
- Description of standard reference methods
- Planning of a sampling measurement campaign: site review; risk assessment; site-specific protocol
- Reporting of results
- Participation in proficiency-testing schemes.

BS EN14181 quality assurance of an AMS

BS EN 14181—Stationary source emissions - Quality assurance of automated measuring systems (AMS) (CEM systems) is one of the most significant and demanding standards to be developed by CEN and it has far reaching consequences for Regulators, Equipment Manufactures, Test Houses and most importantly - Process Operators.

In the implementation of the standard the Agency has developed a Method Implementation Document (MID) and a Technical Guidance Note. The purpose of the training is to provide guidance in the application of the various parts of the standard.

There are practical examples of how to handle the data and establish the calibration function

Course Content

- Background - Directives, legislation and implementation
- QAL1 and MCERTS - Definition and understanding
- QAL2 and SRMs - Definition and scope of the Standard Reference Methods (SRM). Importance of quality measurements.
- Roles and responsibility - As required by QAL2 and the annual surveillance tests (AST)
- QAL3 - How this is carried out and the audit requirements.
- Practical examples - Using example data to establish a calibration function
- Meeting the reporting requirements of BS EN14181

Medium Combustion Plant Directive and Specified Generator Regulations

The European Union's Medium Combustion Plant Directive (MCPD) entered into force in December 2015 and this was transposed into national legislation by 20 December 2017. The MCPD applies to existing individual Medium Combustion Plants (MCPs) in the net thermal input range 1 to <50 MWth and new aggregated plants above 1 MWth (provided that these do not qualify as a Large Combustion Plant under the Industrial Emissions Directive).

Most stationary combustion plants are in the scope of the MCPD and will be required to register and report emissions to the Environment Agency, types of plants under the MCPD but not limited to include boilers, engines and turbines,

Course Content

- What is the MCPD? Frequency of monitoring
- How to register your plant
- MCERTS overview and what is required
- Monitoring approach
- Sampling locations
- Principles of gas sampling
- Principles of particulate monitoring
- Emission monitoring equipment overview
- SO_2 Emissions reporting based on sulphur content of fuels
- Expressing uncertainty of measurement

Foundation Course - Introduction to MCERTS Level 1

This course is designed to provide an introduction in Emission Monitoring and to provide a foundation to the delegate on the requirements MCERTS Standard Level 1

Who should attend

This course is for personnel with little or no experience in emission monitoring or who are at the Trainee level of MCERTS and wish to progress to Level 1.

Course Content

- Introduction to major pollutants
- Basic equipment operation
- Principles of extractive monitoring
- Manual sampling techniques
- Continuous Emission Monitoring
- Units and reference conditions
- Introduction to legislation, regulations and standards
- Environment Agency MCERTS scheme
- Quality management in stack-emissions monitoring

MCERTS Level 2 – Team Leader

This course is designed to provide training to assist the progression from MCERTS Level 1 to Level 2.

Who should attend

This course is for personnel who are at level 1 and are training to become a level 2 team leader.

Course Content

- Responsibilities of a Level 2
- Health and safety review
- Virtual site visit
- Site specific protocol
- Risk assessment
- Report preparation
- Measurement uncertainty
- Selection of methods and equipment
- Pollution abatement techniques
- Types of industrial process

MCERTS Personnel competency

- TE1 – particulate monitoring

The STA has developed a series of revision training courses based on the syllabuses for the MCERTS personnel competency standard.

The revision courses are designed to highlight the depth of knowledge the candidates are required to know to enter for the examinations.

Course Contents:

- Standards review
- TE1.1 Sample train components
- TE1.2 Sample location
- TE1.3 Preliminary work and quality control
- TE1.4 Calculating stack gas volumetric flow rates
- TE1.5 Calculating flow rates in a sample train
- TE1.6 Units and reference conditions

TE2 – Trace element (dioxins, metals etc) measurement

The STA has developed a series of revision training courses based on the syllabuses for the MCERTS personnel competency standard.

The revision courses are designed to highlight the depth of knowledge the candidates are required to know to enter for the examinations.

Course Contents:

- An introduction to trace species
- Sampling equipment for trace species
- Sample recovery and analysis
- Calculations

Your Trusted Partner for Quality-Assured Stack Emissions Monitoring and Consultancy

SOCOTEC

With over 40 years' experience in stack emissions monitoring, SOCOTEC's Air & Emissions teams are trusted by operators and regulators alike to deliver high-quality emissions testing for even the most complex of monitoring projects.

Our network of regional offices and customer-focussed approach ensures that our teams can deliver market-leading, professional and competitive stack emissions monitoring and consultancy services to every sector, including:

- MCERTS and UKAS-accredited permit compliance monitoring
- CEMS calibration to BS EN 14181, including QAL 2, AST and functional tests
- Investigative trials, including the use of FTIR and odour sampling
- Plant commissioning, including residence time testing
- Support in liaising with regulators and CEMS providers
- MCPD testing and RHI certification
- Consultancy services including dispersion modelling, impact assessment and training

Forming an integral part of SOCOTEC UK's Environment & Safety division, we also provide comprehensive solutions in occupational hygiene, environmental monitoring and contaminated land consultancy, asbestos management, health and safety consultancy and water treatment.

SOCOTEC UK is supported by the SOCOTEC Group, the global leader in testing, inspection and compliance, which has facilities in more than 40 countries and 6,700 employees, as well as an annual turnover of €1bn.

For further information on SOCOTEC's Air & Emissions services, please visit www.socotec.co.uk or contact us on 0845 603 2112

SOCOTEC: Building Trust for a Safer and Sustainable World

UKAS TESTING 1015

MCERTS

TE3 – Gaseous measurement by manual extractive measurement

The revision courses are designed to highlight the depth of knowledge the candidates are required to know to enter for the examinations.

Course Contents:

- Introductions
- Representative sampling
- Batch sampling
- Water vapour
- Hydrogen chloride
- Hydrogen fluoride
- Halogens and halides (excluding HCl and HF)
- Sulphur dioxide, sulphur trioxide and total sulphur
- Ammonia
- Other wet chemistry methods
- Speciated VOCs
- Other tube/filter methods
- Calculations

TE4 – Gaseous measurement by instrumental analysers

The revision courses are designed to highlight the depth of knowledge the candidates are required to know to enter for the examinations.

Course Content:

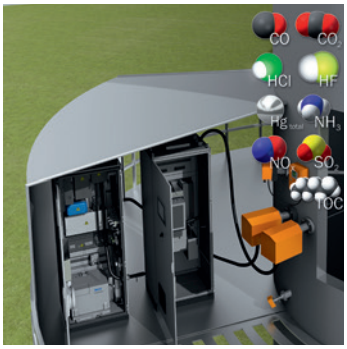
- Introductions
- Sampling gases using instrumental techniques
- Optical instrumental techniques
- Non-optical instrumental techniques
- Calibration and maintenance
- Calculations

For details of all STA training visit: **www.s-t-a.org**

EMISSIONS & PROCESS MONITORING

CERTIFIED CEMS & PROCESS ANALYSERS

SICK
Sensor Intelligence.

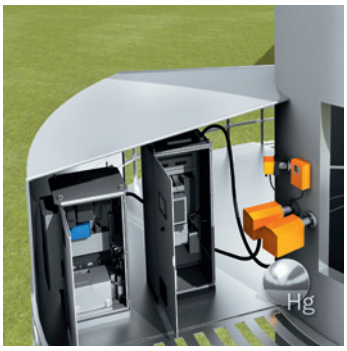


MCS100FT CEMS: Continuous emissions monitoring of all pollutant components in exhaust gases

With the MCS100FT, SICK offers an FTIR analyzer system that provides complete, continuous emissions monitoring. It detects more than 12 measuring components simultaneously, such as HF, HCl, SO2, NO, NO2, CO, NH3, N2O, CH4, and Corg (VOC). The MCS100FT enables HF limit values to be monitored in accordance with legal requirements. It is equipped with an oxygen sensor as standard and can be supplemented with an integrated total hydrocarbon analyzer (FID).

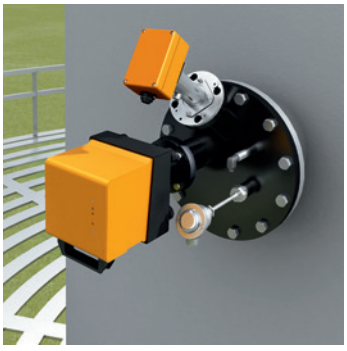
MCS200HW multi-component analyzer system: Measurement of components in flue gases of industrial combustion plants

The all new MCS200HW is the replacement for the hugely successful MCS100E HW, This Hot, wet extractive system is capable of measuring up to 10 components and can also include an O2 measurement as well as an integrated VOC analyser. With a new web display and operating system and integrated calibration cells the MCS200HW is another industry leading CEMS from SICK.



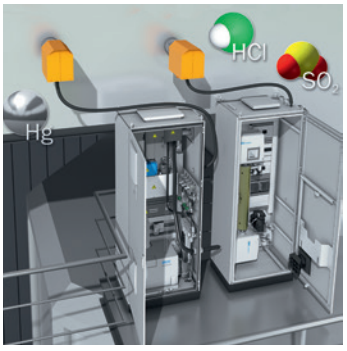
MERCEM300Z extractive gas analyzer: Monitoring mercury in emissions

The MERCEM300Z extractive gas analyzer has one of the smallest certified measuring range of all measuring systems suitability tested in accordance with EN 15267-3, with a range from 0 to 10 µg/m^3 total mercury content. It is also suitable for continuously monitoring the annual threshold of 10 µg/m^3. The greatest advantage of the MERCEM300Z is that it transforms oxidized mercury into elemental mercury without the addition of chemicals or converters. This significantly reduces the amount of maintenance required in comparison to all other measuring systems.



Combiprobe CP100 CEMS solution: Space-saving solution for measuring dust, flow, pressure, and temperature

With the CP100 combiprobe, dust, flow, pressure, and temperature can be measured in the stack with minimal use of space. This solution involves installing a DUSTHUNTER SP100 (scattered light method), a FLOWSIC100 PR (ultrasonic measuring principle as a probe), and a PT100 temperature sensor and pressure sensor on a combination flange (DN250 PN6). This renders additional couplings or flanges unnecessary. This space-saving solution especially proves its worth where redundant design of the measuring devices is required.



MCS300P HW process solution: Process measurement at flue gas scrubber inlets

In the flue gas scrubber, among others, HCl and SO2 are reduced with reagents. Activated carbon is added for mercury removal. The MCS300P HW simultaneously measures the SO2, HCl, H2O, and optionally the O2. The MCS300P is an extractive process photometer which can measure gaseous or liquid media. It measures IR and VIS active components with variable measuring ranges available, capable of automatic sample point switch and an integrated adjustment unit the MCS300P also has flexible I/O capabilities for interfacing with the plants DCS.

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