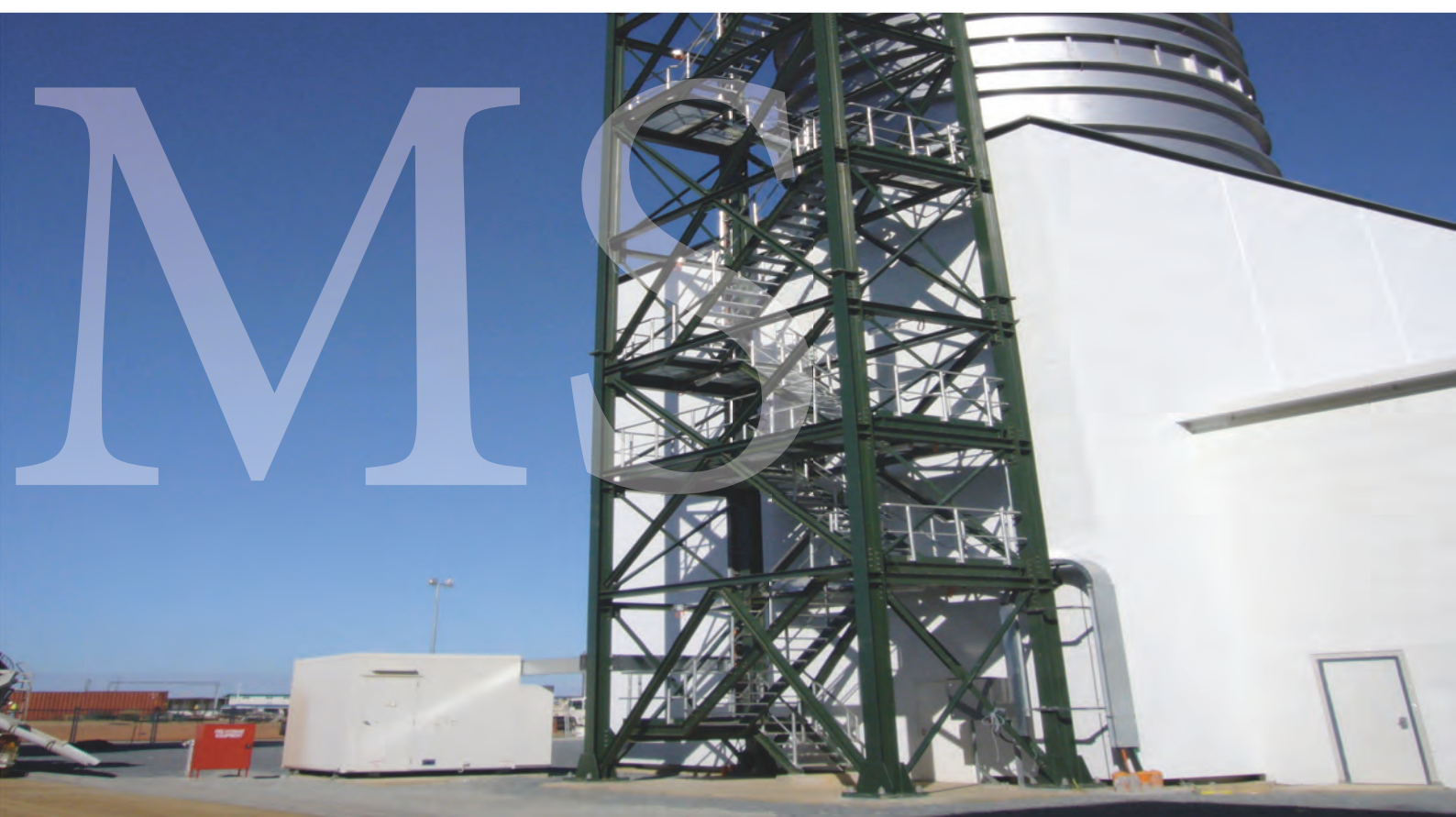




CONTINUOUS EMISSION MONITORING SYSTEMS

DUST, GAS, VELOCITY/FLOW
by Thomson Environmental Systems



TES CUSTOM SYSTEM INTEGRATION

Thomson Environmental Systems (TES) are pleased to offer a wide variety of custom made solutions to meet your site specific Continuous Emissions Monitoring requirements. We offer Insitu, Direct extractive and Dilution extraction systems, providing reliable, low maintenance systems to meet challenging applications such as TRS, VOC, HCL and NH3 monitoring as well as value monitoring solutions for CO, NOx, SO2 and more.

For reliable data and operation year after year, we integrate trusted well-known brands such as Teledyne API, Permapure, Gasetmet and other quality components.

Systems are equipped with accessories for CEMS housing, calibration; including probe spiking, system alarms, probe blow back and options for high temperatures up to 1200-1400C, O2 & H2O monitoring, data collection and reporting to US EPA regulations.

OUR TURNKEY SOLUTIONS INCLUDE:

- Insitu, Direct Extractive & Dilution Extraction Gas Analyser Systems
- Insitu Dust/Opacity Analysers
- Insitu Flow/Velocity Sensors
- System Design & Integration
- Sample Probes & Lines
- Sample Clean Up Units
- Calibration Equipment
- Data Logging and Recording
- Air-Conditioned Cabinets & Walk in Shelters



INSTRUSTRIES SERVED

- Gas & Coal Fired Power Plants
- Manufacturing Plants
- Refineries
- Research Facilities
- Paper Mills
- Waste to Energy Plants
- SynGas
- Steel Industry
- Food Industry
- Biosolids
- Incinerators
- Thermal Oxidisers
- Sewage Treatment Plants
- Boilers

PARAMETERS MEASURED

- GASES**

 - CO
 - CO2
 - SO2
 - NH3
 - HF
 - NO, NO2, NOx
 - HCL
 - H2S
 - TRS
- CH4**

 - N2O
 - VOC's
 - OVER 300 MORE
- DUST**

 - Opacity
 - Dust mg/m3
 - Broken Bag Detection
- FLOW/VELOCITY**

Instrumentation

Combining over 62 years' experience in Australia, New Zealand and Overseas Continuous Emission Monitoring Systems (CEMS) Markets, Thomson Environmental Systems (TES) supply CEMS to meet relevant local state, USEPA, TUV and world best practise requirements, dependant on your needs.

INSITU GAS CEMS

System Features:

- Resistant to stack movement and vibration
- No Sample drawn from the stack = no conditioning, pumps or filters required
- No sample lines are required to be routed
- 25+ gases can be measured simultaneously with virtually instantaneous results.
- Moisture can be measured

Gasetmet™ In-Situ offers a cost-effective alternative where multiple compounds are monitored. Utilising FTIR H2O, CO2, CO, NO, NO2, N2O, SO2, HCL, HF, NH3 and CH4 are continuously monitored with a single Gasetmet™ In-Situ. In addition, different VOC's can be measured as individual compounds. There is no need for any span calibrations; only zero calibration with instrument air every 24 hours

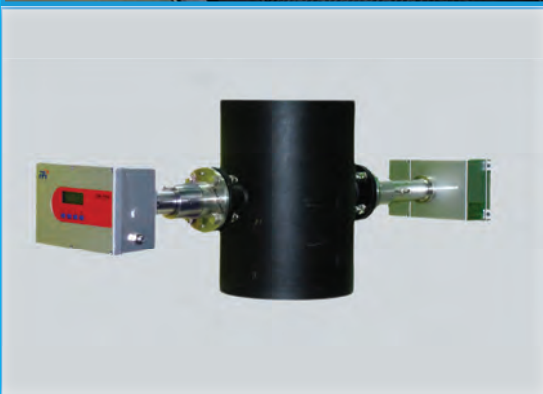


INSITU GAS CEMS

System Features:

- No cross Interference
- Fast response, less than 1 second
- Diverse optical length (0.5-20m)
- Install base of over 8,000 instruments worldwide
- Online Calibration, no Zero drift
- International ATEX Certified

FPI's Single Gas Analyser utilises Tunable Diode Laser Absorbtion Spectroscopy (TDLAS). The LGA System can accurately measure in harsh environments and is virtually maintenance free.



DILUTION EXTRACTION GAS CEMS

System Features:

- Low Maintenance systems as Less Sample drawn from the stack
- Lower calibration gas consumption
- Zero Air Dilution dries sample to below dew point at sample probe, avoiding acid formation or liquid aerosol damage
- Ideal for monitoring corrosive gases in corrosive sample streams such as H2S and TRS.
- Utilises Teledyne API or Tiger Optics Ambient analysers

Sample Probe: Heated Dilution Probe – Eductor style. (optional O2)
Sample Line: Teflon or other non heated material.



DIRECT EXTRACTION SYSTEMS

System Features:

- Simple, Economical Systems
- All analysers including O2 can be mounted at ground level
- Sample is analysed at stack concentrations, therefore analysers are of lower sensitive and require less frequent calibration.
- Utilises Teledyne API Medium and High level analysers or Gasetmet FTIR multi-gas analysers.
- 300 gases measured using Gasetmet instruments

Sample Probe: Heated Probe

Sample Line: Heated

Accessories: Sample Conditioning System, Probe blow back



Installation & Commissioning

TES's factory trained technicians have installed Continuous Emissions Monitoring Stations all over the world. TES provide on-site installation and commissioning services to the highest quality backed by years of expertise. Maximise your capabilities by opting for on-site or in house training for your technicians. We're here to support you as our customer and the industry as a whole.

Service & Maintenance

“TES has been one of the most responsive, accommodating, flexible and patient CEMS vendors we have ever dealt with.” - Jordan Haywood, Siemens

TES are proud to be known for our outstanding service and support. When it comes to maintenance we strongly believe that preventative maintenance is better than reactive maintenance. As well as reducing costs and instrument downtime, well maintained instrumentation will perform better and last longer. TES offer factory service and calibrations and stock a key spare parts inventory. Ask about our service and maintenance contracts today! Phone and email support provided on any occasion without charge.



Contact Thomson Environmental Systems today for more information and pricing

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Data Acquisition Systems

- Full or Lite version available
- **Database, local or cloud server**
- **Automated Works Order Forms emailed to technician if fault occurs**
- Tools for data validation
- Tools for maintenance management, calibration and audit management
- Identify failures before they occur
- **Alarms by SMS, twitter, email & web**
- Planning of preventative maintenance and spare parts management
- **Real-time online display**
- Charts and Reports
- **Multi-protocol comms and data acquisition; OPC, Plant Information - PI, OLEBC, ModBus**
- **Export to PDF, CSV and xls formats**
- DATA REPORTING AND OPERATION PACKAGES AVAILABLE

