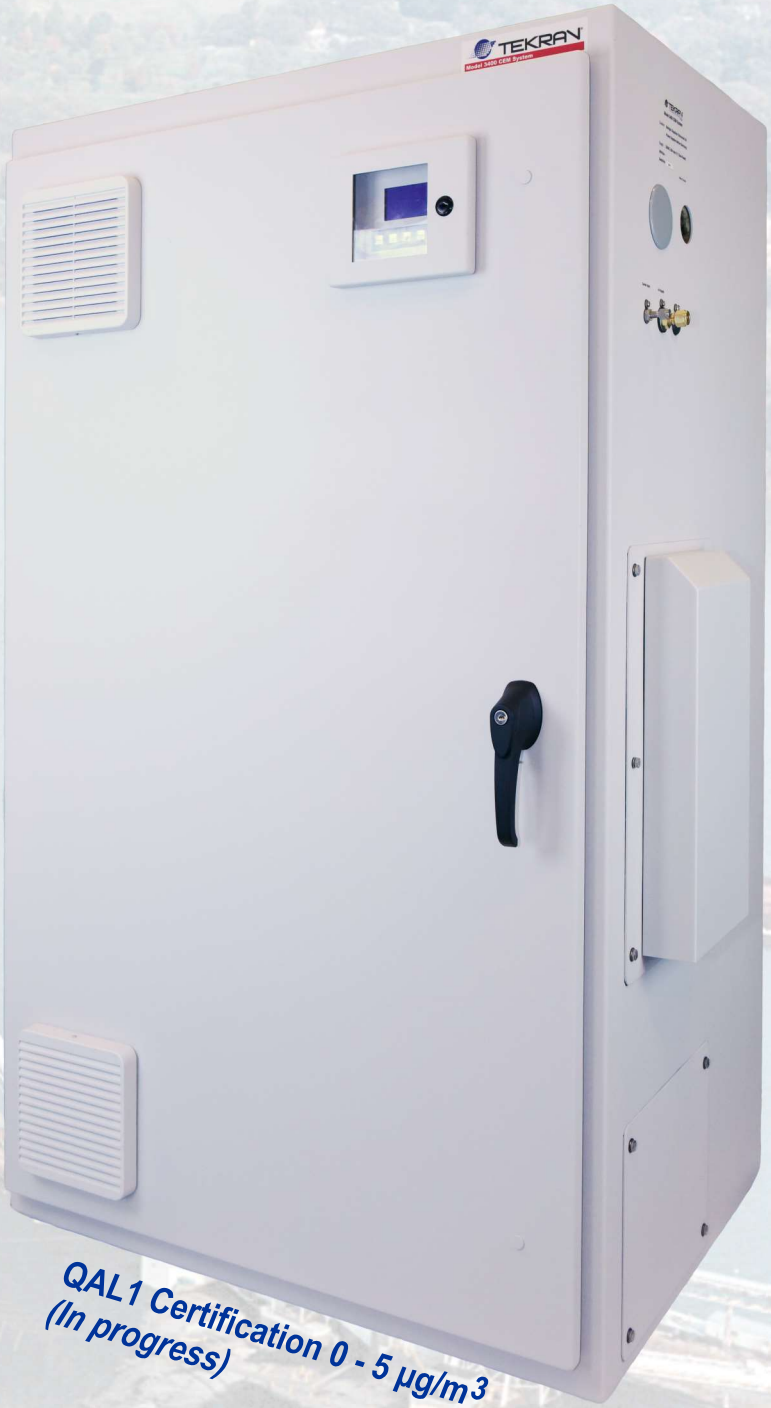
TEKRAN®
Instruments Corporation
a TSI company

A Decade of Mercury Monitoring Below 1.0 µg/m^3

Regulatory & Processs Monitoring Applications
(0 - 300 µg/m^3)

- **Coal Fired Power Plants**
- **Cement**
- **Incineration**
- **Research**



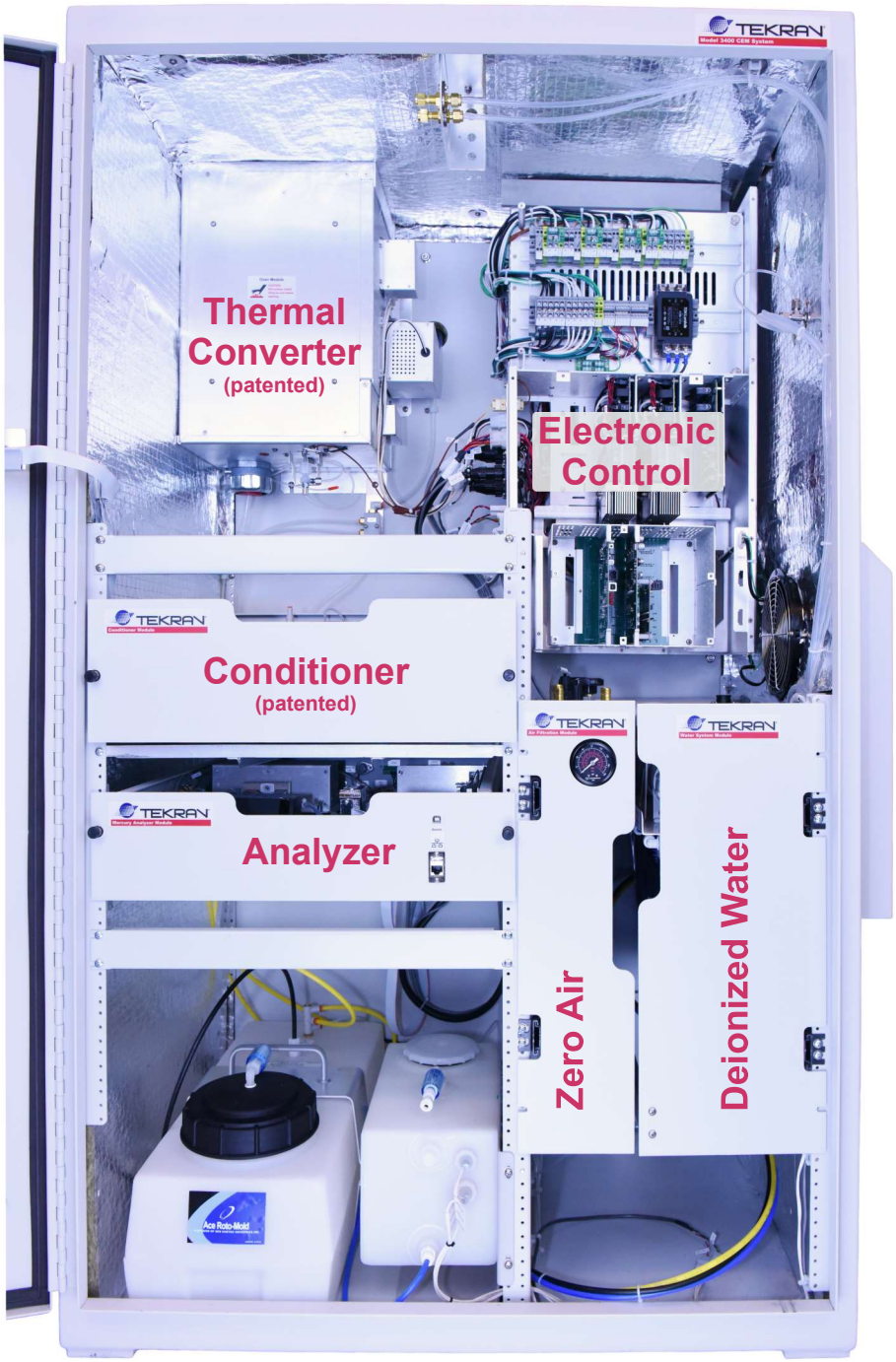
QAL1 Certification 0 - 5 µg/m3 (In progress)

New Tekran® 3400 HgCEM

Tekran Instruments Corp.
330 Nantucket Boulevard
Toronto, ON M1P 2P4
Phone: 416-449-3084
Toll Free: 888-583-5726
tekransales@tekran.com

TEKRAN Instruments Corporation
WHERE MEASUREMENT BEGINS™

Tekran® 3400 HgCEM System



Designed for simple and efficient installation and startup

Multiple configurations available for mercury speciation, research, control technology evaluation, process and compliance monitoring

Direct access using component slide-out feature for maintenance activities

Robust firmware driven operation and user interface with advanced user interface through PC and terminal program

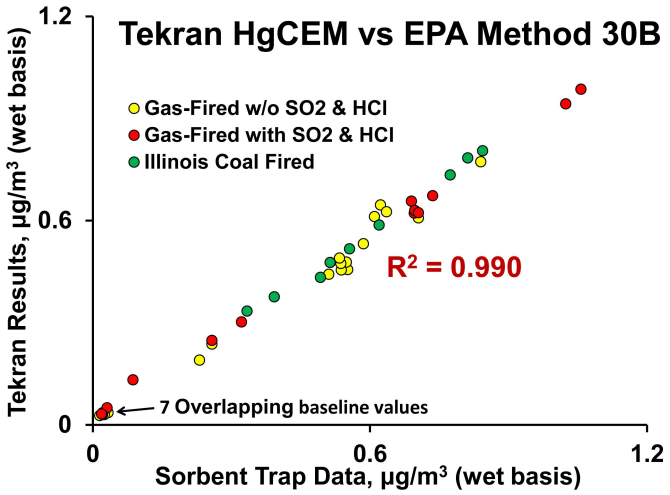
Cabinet rated for IP40 (indoor) or upgradable to IP56 (outdoor) with temperature control option for installation in harsh conditions

Proven performance for over 20 years, based on the patented thermal converter, conditioner, dual-gold cartridges and CVAFS detection

Tekran® HgCEM Performance

Low-Level Accuracy Study*

The well-respected Energy and Environmental Research Center at the University of North Dakota tested the performance of a Tekran HgCEM and another vendor when measuring coal flue gas at sub-microgram concentrations (range = 0.02 - 1.06 µg/m³). The study results to the right show the superior linearity, precision and accuracy of the Tekran HgCEM System over this very low concentration range.



Detection Limit Studies

Study	Year	MDL (µg/m³)#
EERC	2011	0.01
Tekran	2019	0.004

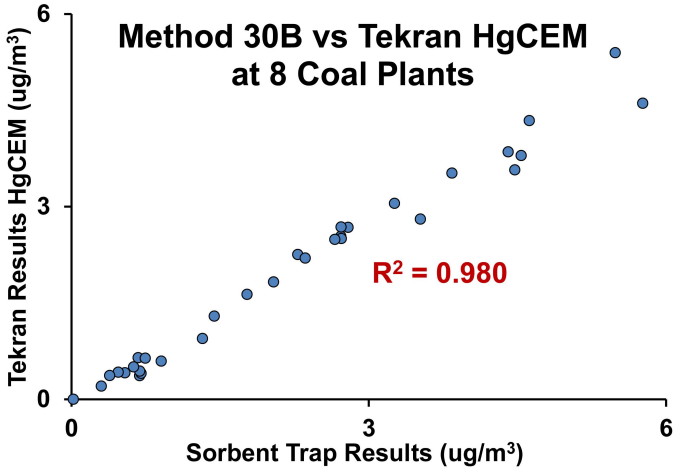
#Based on US EPA 40 CFR 136 Appendix B

Method Detection Limit (MDL)*

Determining the MDL of an HgCEM is challenging and requires following the strict protocols outlined in US EPA 40 CFR 136. For the Tekran HgCEM System a 0.051 ug/m³ test atmosphere was introduced at the probe inlet and the MDL was determined on 3 separate days. Results are presented at left for an independent MDL study and the one completed at Tekran.

Field-Based Proven Performance*

The US EPA requires frequent Relative Accuracy Test Audits (RATAs) using Method 30B. Since 2011, the Tekran HgCEM System has passed hundreds of RATAs. The left graph depicts actual RATA test data from 8 separate plants with a mix of control technology and combustion fuel. In 2017, an independent study using a threshold of less than 0.6 ug/m³, found that the Tekran HgCEM passed all RATAs.



See Tekran website for further inormation

Tekran® Model 3400 Specifications

Enclosure:

Dimension	183 x 91 x 61 (cm) (H-W-D)
Protection	IP 40 (indoor) IP 56 (outdoor)

Measurement Specifics:

Methodology	CVAFS
Range	0 - 300 µg/m^3
Accuracy	+/- 1% full scale
Detection Limit	0.01 ng/m^3
Response Time	180 s

Environmental:

Operating Temp	15 °C - 35 °C
Humidity	20 - 90% RH
HVAC Upgrade Available	
Suitable for Outdoor Installation	

Electrical Requirements:

Three dedicated	20 Amp circuits
Probe/Stinger	500 W + 600 W = 1100 W
Heated Line	100 W per meter, 4000 W max
Cabinet	2500 W (start-up); 1500 W (typical)

Measuring Data Output:

Analog Output	Two 4-20 mA channels (200 to 400 Ω load)
Digital Output	Network Port, Modbus

Tekran Instruments Corp.
330 Nantucket Boulevard
Toronto, ON M1P 2P4
Phone: 416-449-3084
Toll Free: 888-583-5726
tekransales@tekran.com