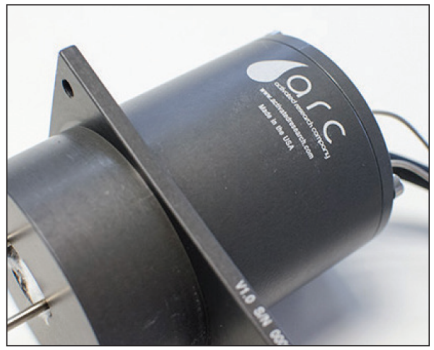
THE POLYARC® SYSTEM

Transforming the Use of GCs with FIDs

What it is:

The Polyarc® system is the first commercial technology of its kind. The device uses proprietary technologies, including novel catalysts and a specially designed 3D-printed microreactor (see above). The Polyarc system seamlessly integrates into new and existing gas chromatographs (GCs) with flame ionization detectors (FIDs). The optimized internal design and catalyst microstructure maintain separation performance and peak shape while increasing sensitivity.



How it works:

The Polyarc® system converts all organic compounds to methane molecules prior to their detection by the FID, creating a uniform detector response for truly universal carbon detection. This gives scientists the capability to quantify accurately in a simple, fast and more economical way, transforming the analysis of organic compounds.

WHAT RESEARCHERS ARE SAYING

[This] is really the **holy grail** of chemical analysis.

Paul Dauenhauer, Professor,
University of Minnesota*

In my opinion, I believe everyone should use a Polyarc reactor if they're using GC/FID. It's a simple choice because the Polyarc will only **maintain or improve the sensitivity** of compounds, especially for acids, which is a good thing.

Scientist at Multi-Billion Dollar Pharmaceutical Company

The use of the Polyarc to convert CO and CO_2 to methane to allow the use of FID vs. TCD afforded much **superior detection limits** for CO in air.

Dr. Roger Pearson, President – Analytical Services, Aspen Research Corporation

The Polyarc reactor…should be installed on every GC to **eliminate the need for tedious calibrations** and to facilitate closure of carbon balances when unknown species are detected.

Matthew Gilkey, Ph.D. Candidate, University of Delaware

**These statements are made by the person identified and do not reflect the views of the institutions or companies that they are affiliated with.*

CHROMATOGRAPHIC SPECIALTIES INC.

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www.chromspec.com

tech@chromspec.com

activated research company

A Breakthrough Innovation Revolutionizing GC/FID Technology

The Polyarc® System

Better Data Quality.
Increased Throughput.
More Economical.

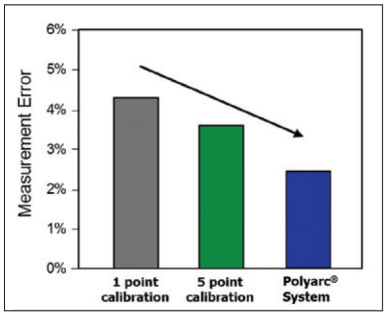
www.activatedresearch.com

BETTER DATA QUALITY

Increase accuracy and reduce error-producing steps

Improve accuracy, precision and sensitivity with a uniform FID response. Better data quality leads to improved decision making and more reliable products.

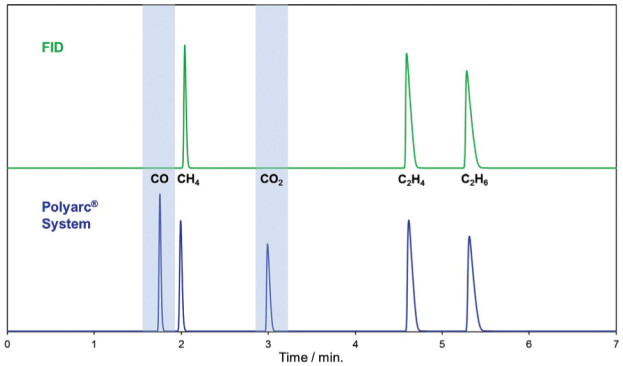
Realize >35% error reduction



Diagnose Existing GC System Errors:

- Unreliable or unavailable standards
- Response factor variations
- Sample-to-sample variation
- Syringe injection imprecision
- and more…

Detect compounds previously 'invisible'



INCREASED THROUGHPUT

Simplify workflow through reduction in calibration steps over time

Run fewer samples by reducing the need for traditional calibration curves while accurately quantifying all species in a sample.

Simplify calibration and save up to 98% of time

5-point Calibration
45 injections
Up to 23 hours

2-point Calibration
18 injections
60% time savings

Polyarc/FID
One injection
98% time savings

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MORE ECONOMICAL

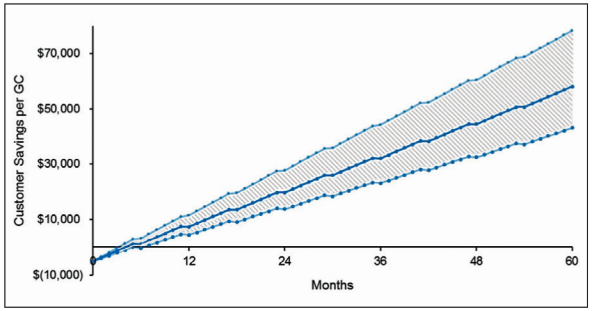
Achieve a more cost-effective, time-saving and productive operation

Simplified workflow = greater productivity

Use valuable resources more efficiently by reducing or eliminating the time and costs associated with:

- Purchasing/preparing calibration standards
- Analysis time to prepare/run calibration curves
- Increased wear on the GC/FID

Financial savings of up to 80%



Shaded area represents range in standard cost

Save up to $30k per GC in two years

SAME GC. SAME SOFTWARE. BETTER DATA.

Application Notes & Other Technical Literature at www.activatedresearch.com

Topics include:

FAMEs
Oxygenates
Organic Acids
Pesticides
Pharmaceuticals
Flavor Analysis
Polar/Non-Polar Compounds
And More…