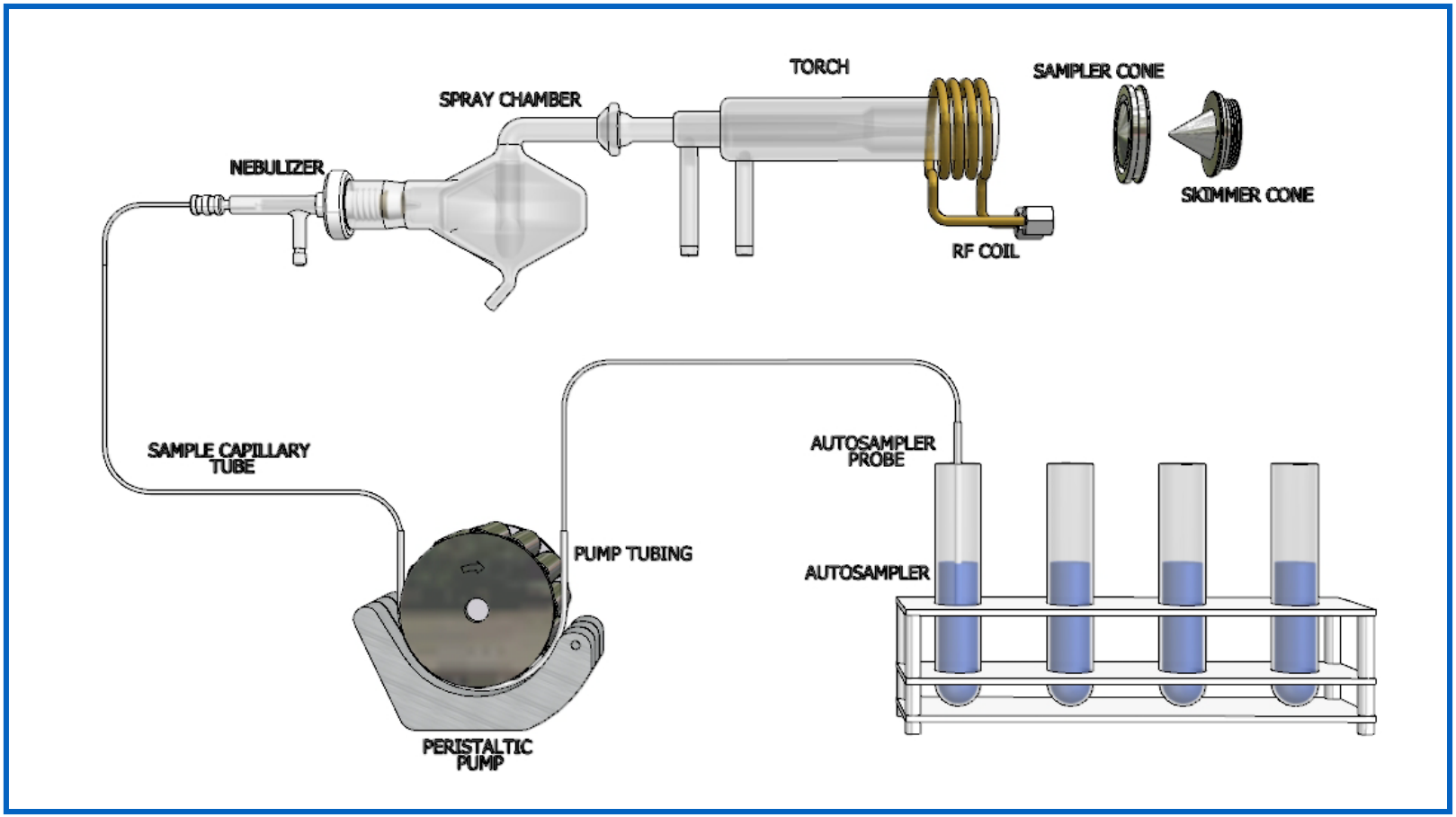
QUALITY ASSURANCE IN THE METALS LABORATORY

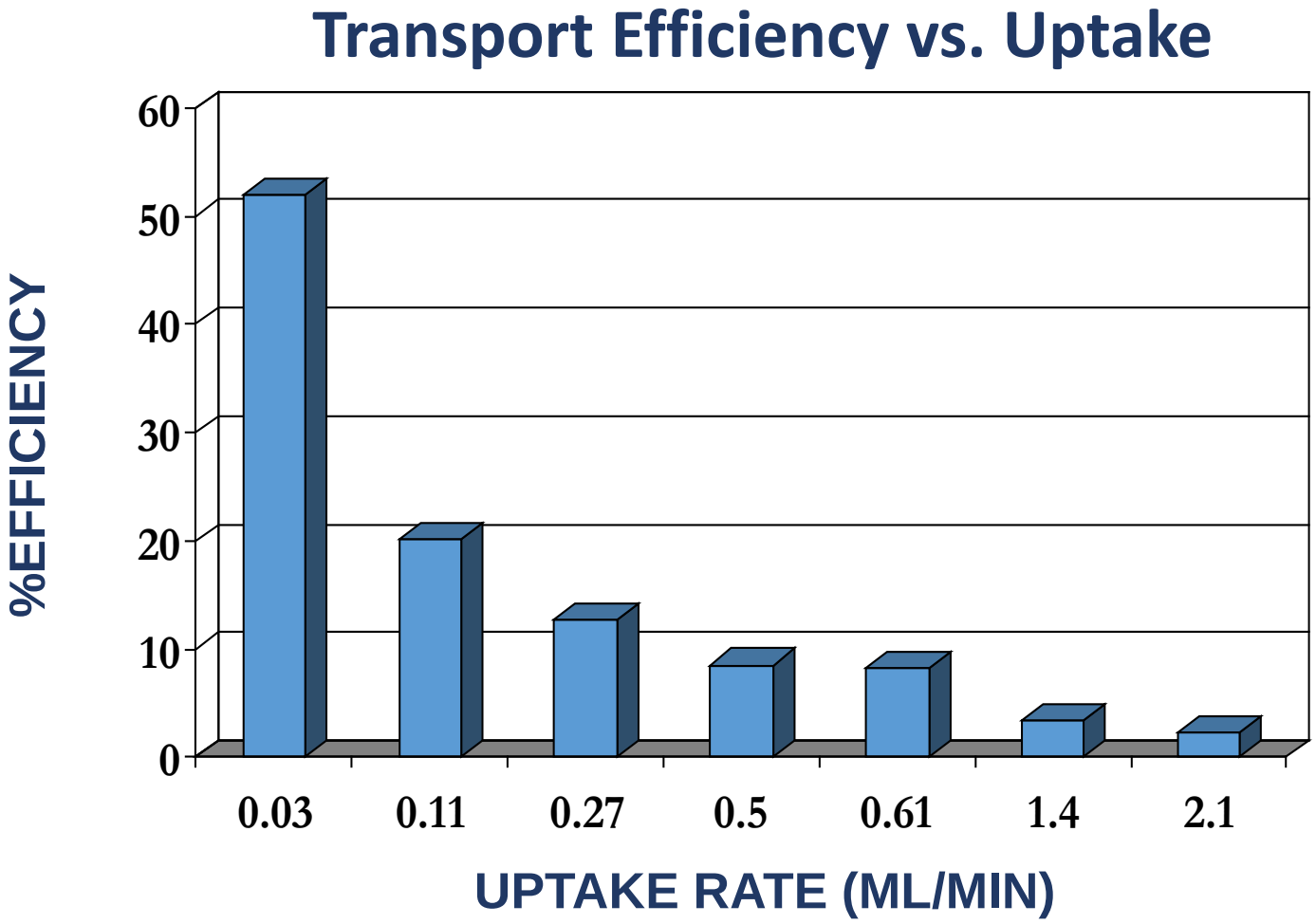
FACTORS YIELDING HIGH QUALITY

- Control all parameters
- Ruggedize system
- Regular maintenance

SAMPLE INTRODUCTION SYSTEM



CONTROLLING UPTAKE RATE



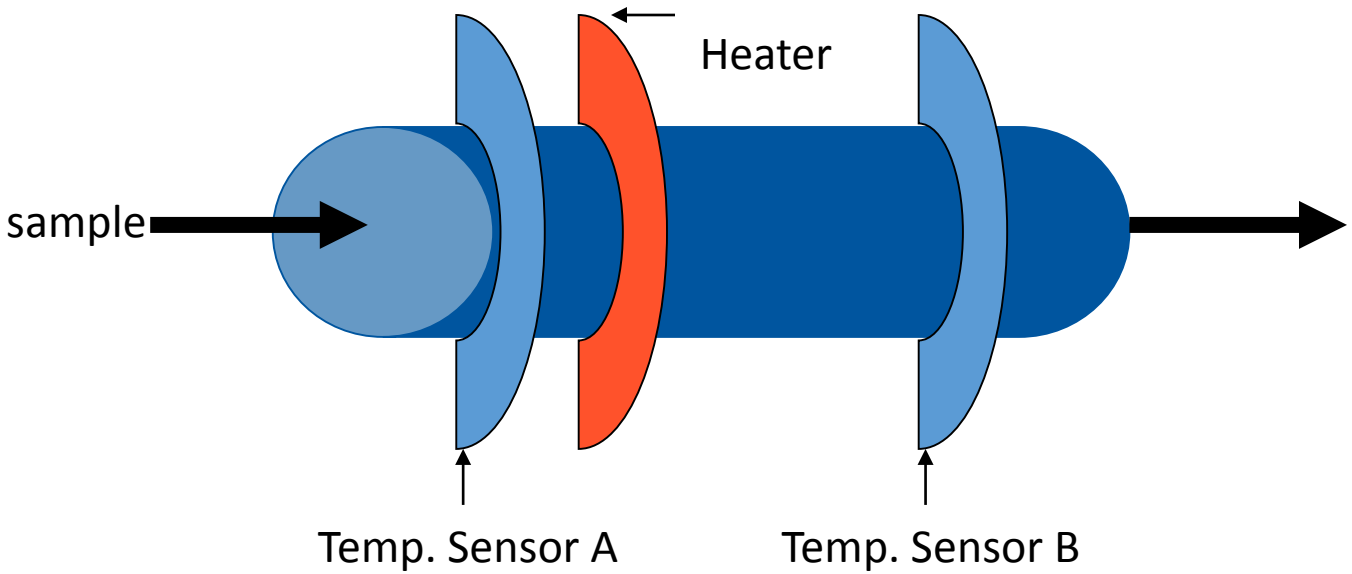
CONTROLLING UPTAKE RATE

Real-Time Sample Flow Measurement

- Worn pump tubing?
- Worn pump rollers?
- Improperly adjusted pump tension?
- Clogged nebulizer?
- Kinked sample capillary?

CONTROLLING UPTAKE RATE

How it works: Thermal Flow Measurement

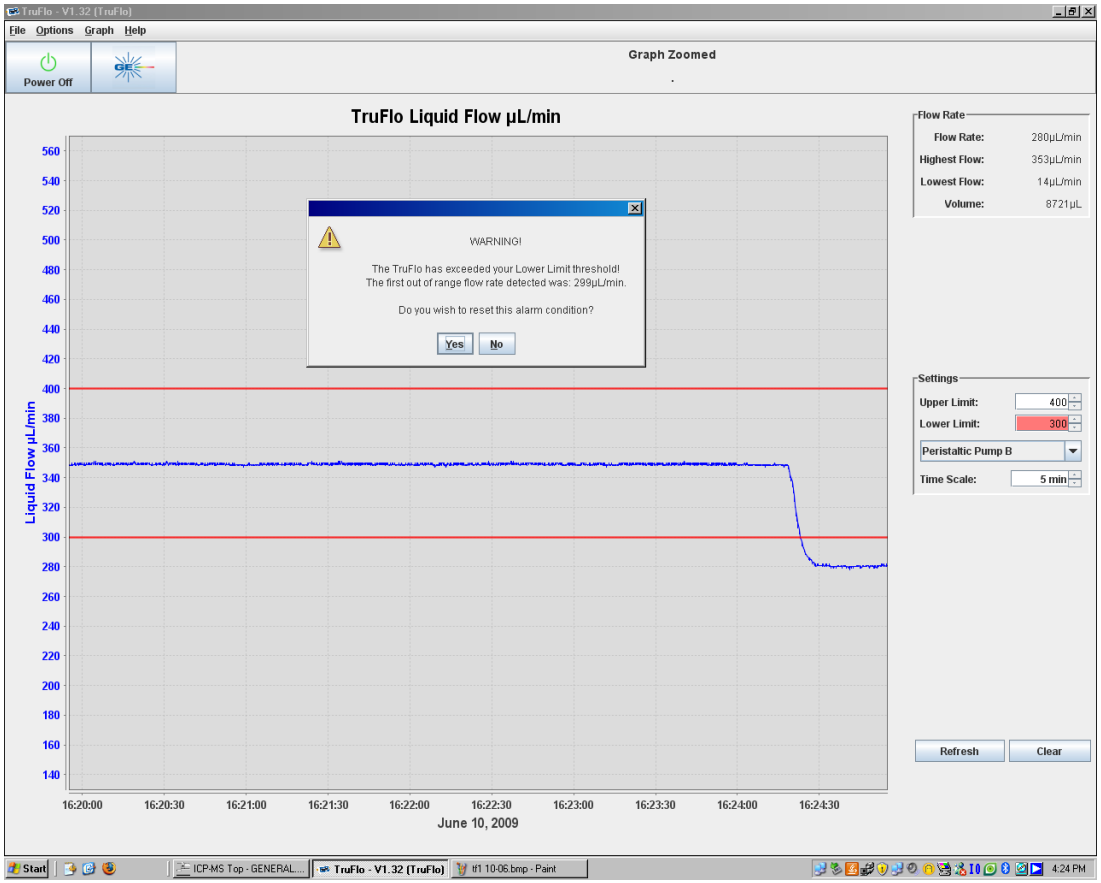


- Flow Rate is related to ($Temp_A$ – $Temp_B$)

CONTROLLING UPTAKE RATE

Features of TruFlo:

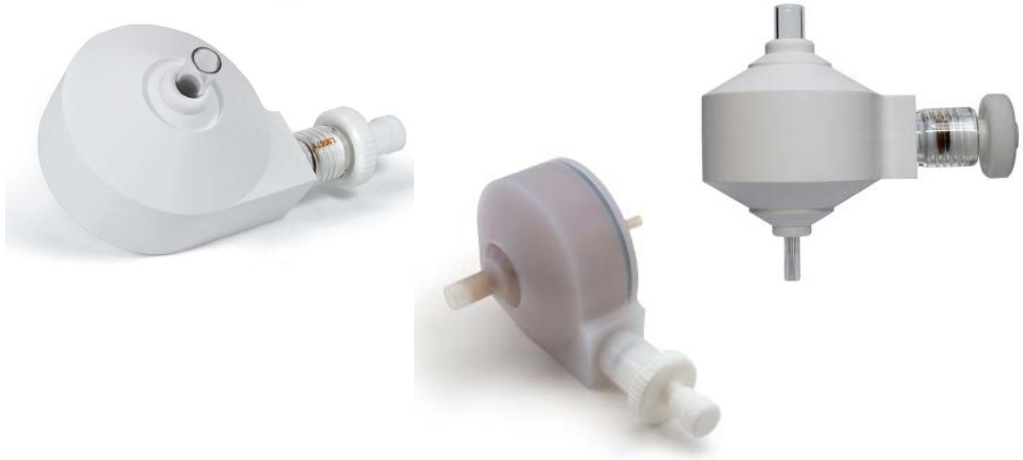
- Adjustable damping
- Settable alarm limits
- Digital display
- Recordable graph
- Range: 0 to 4mL/min



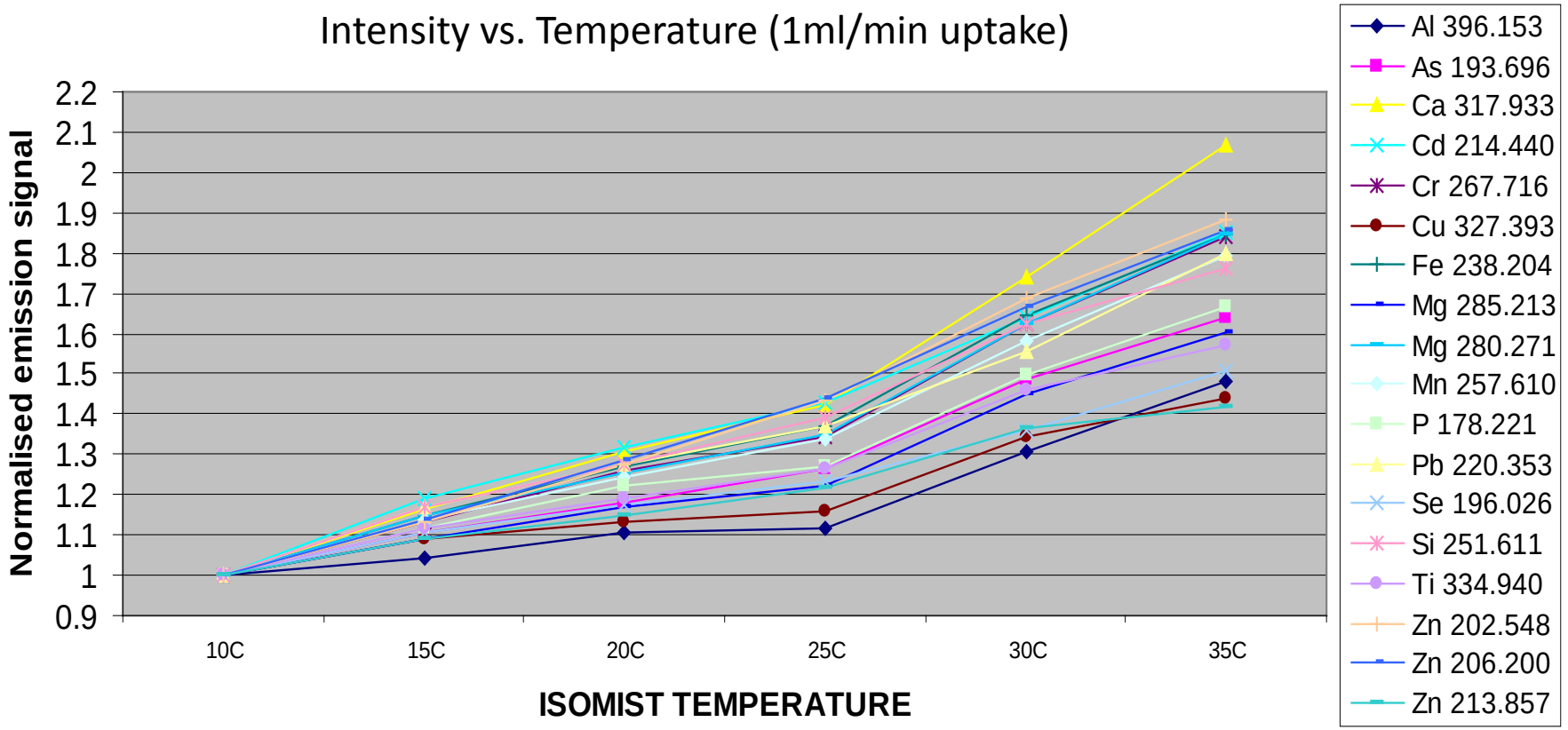
CONTROLLING TEMPERATURE

IsoMist Configurations:

- Standard glass cyclonic Twister spray chamber; e.g. KT-1013
- Quartz cyclonic Twister spray chamber; e.g. KT-1013Q
- High purity PFA cyclonic spray chamber; e.g. KT-1013P
- Low volume Twinnabar spray chamber; e.g. KT-1013T
- Glass, quartz and PFA spray chambers are interchangeable

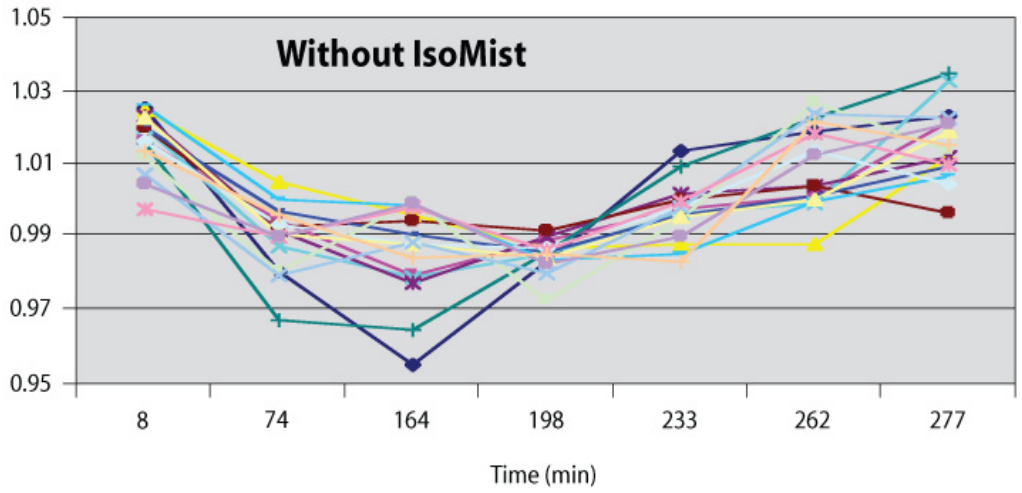


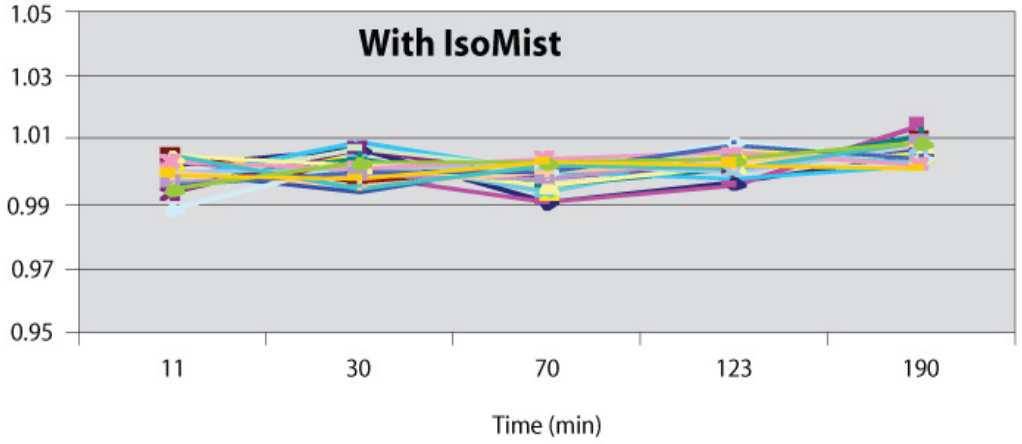
CONTROLLING TEMPERATURE



CONTROLLING TEMPERATURE

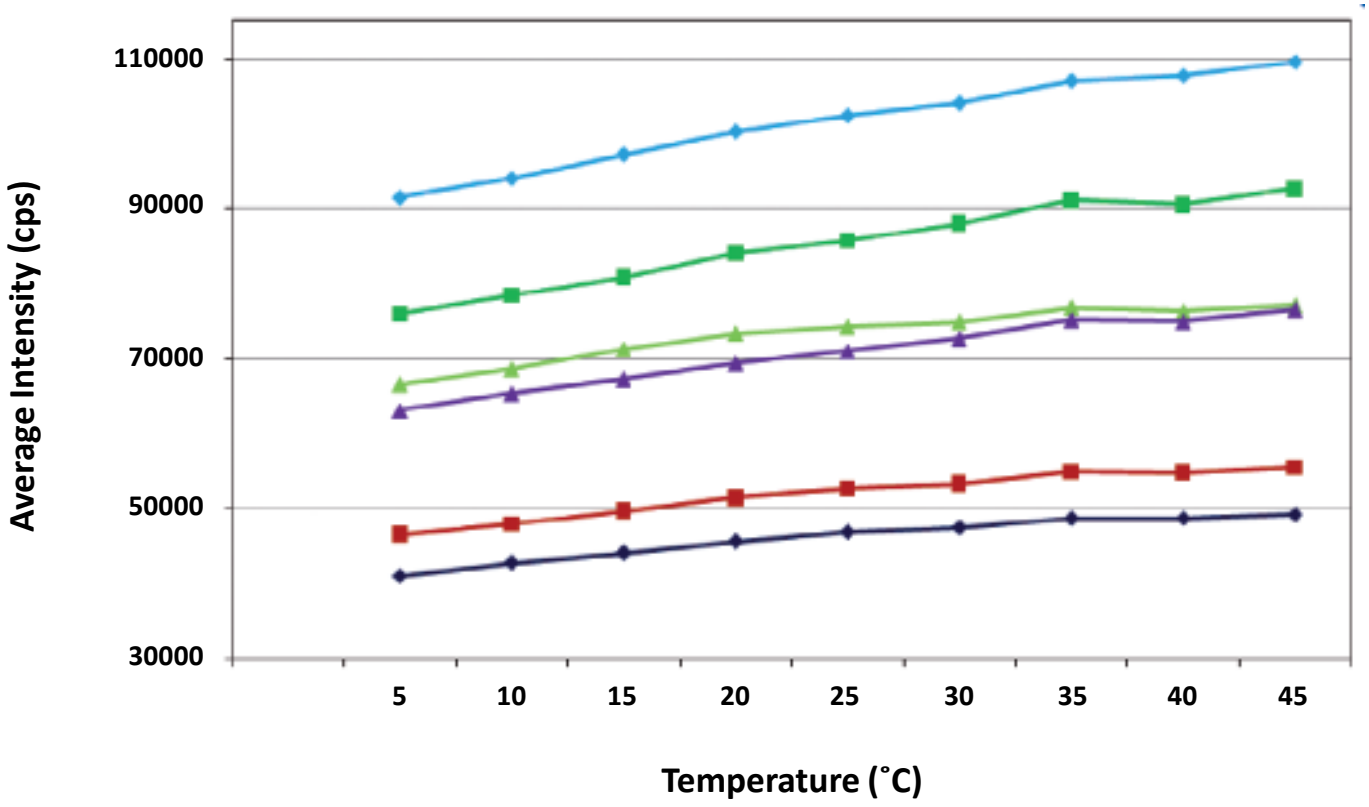
- Higher accuracy
- Higher productivity
- Greater reproducibility
- Better experiments





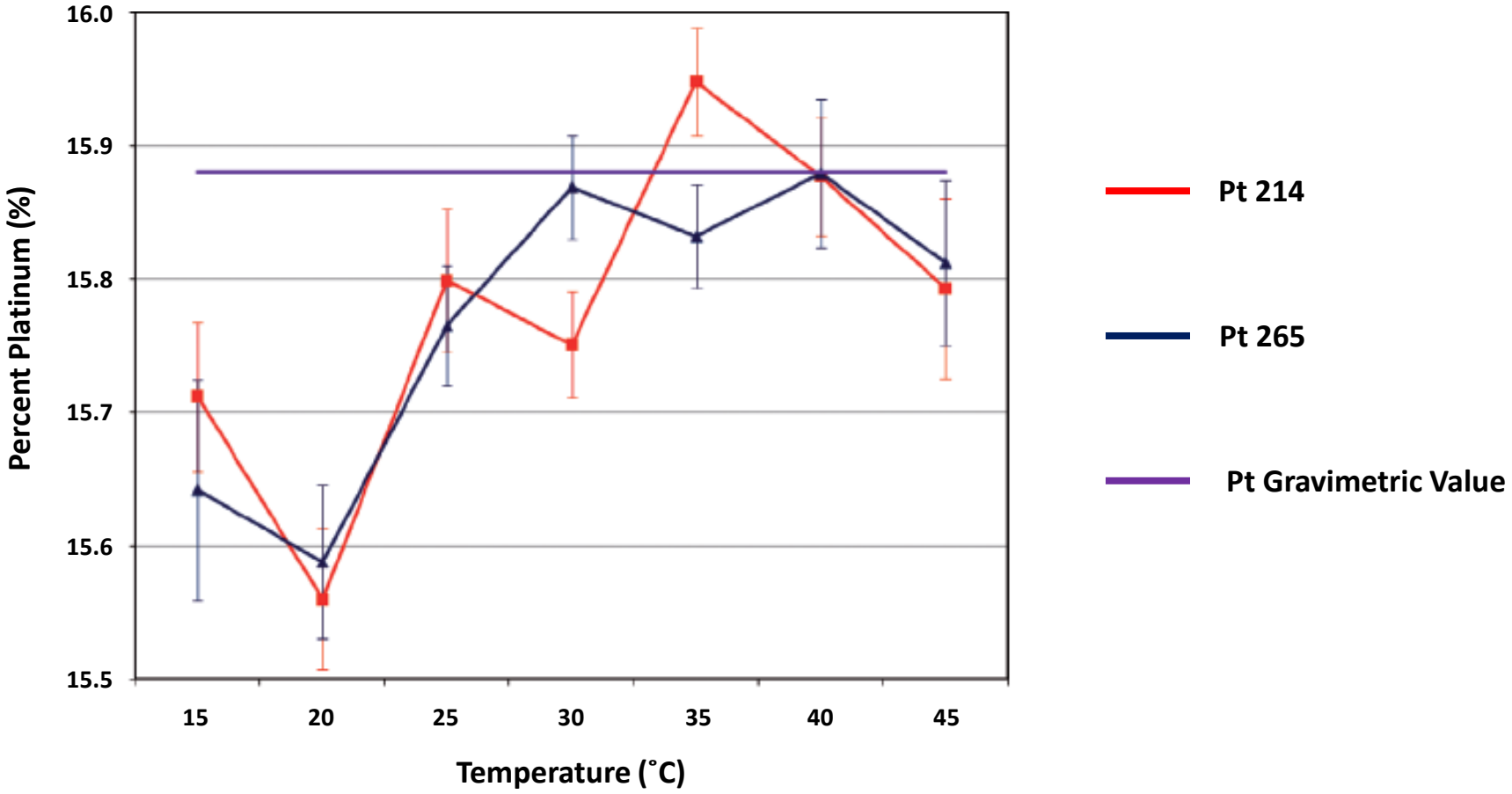
CONTROLLING TEMPERATURE

ENHANCED SENSITIVITY FOR PRECIOUS METALS



CONTROLLING TEMPERATURE

IMPROVED ACCURACY FOR PRECIOUS METALS



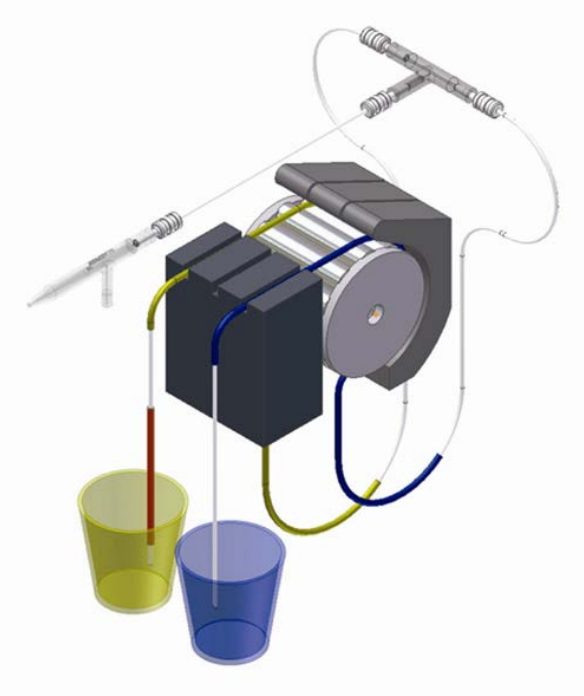
CONTROLLING INTERFERENCES

Internal Standardization:

- ICP-MS
  - Ionization
  - Space-charge
  - Suppression
- ICP-OES
  - EIE
  - Suppression
  - Noise

Trident Internal Standard Kit

- Modular construction
- Zero dead-volume connections
- Built-in mixing chamber

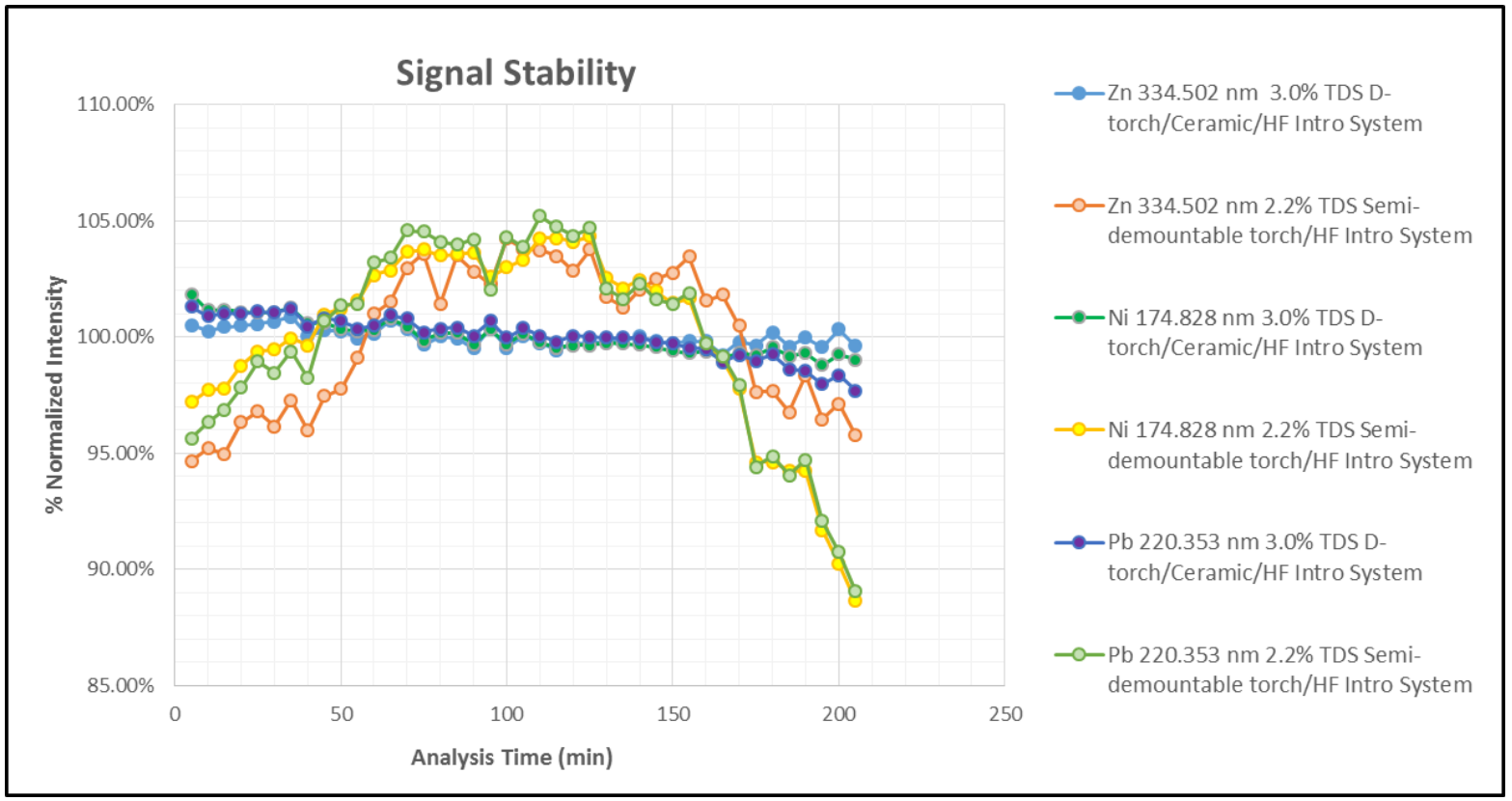


DEALING WITH HIGH TDS

- SeaSpray nebulizer
- Twister spray chamber
- Argon Humidifier
- Ceramic outer tube

IMPROVED STABILITY

Fully Ceramic D-Torch – Less Maintenance & Improved Stability with High TDS



Glass Expansion October 2013 Newsletter, "How to Achieve High Accuracy with Difficult Samples."

ENHANCE DAY-TO-DAY REPRODUCIBILTY

NEW PRODUCTS

QA Kit: P/N KT-1136

- Re-usable inline filter.
- Nebulizer cleaning tool.
- Black flushing adapter.
- Real-Time sample monitor.

TruFlo: 70-803-0643

Eluo: 70-ELUO

Inline Filter: 70-803-1108

Adaptor: 70-803-1160

GE GLASS EXPANSION
Quality By Design

VISIT BOOTH # 2727

www.geicp.com

PITTCON CONFERENCE & EXPO 2015

QC SUMMARY

- Control sample uptake
- Control spray chamber temperature
- Control interferences
- Control down-time