

## QIC Series Gas Analysers

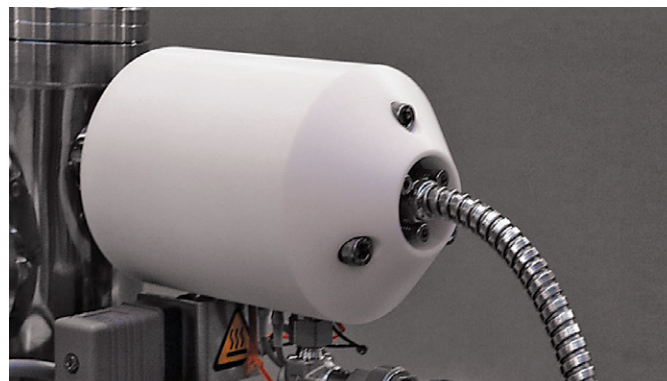
- ▶ **Pressure & temperature sampling options for Hiden gas analysis systems**

# Gas & Vapour Inlets



## STANDARD QIC – QUARTZ INLET CAPILLARY:

- ▶ Sample pressure range 2 bar to 100 mbar
- ▶ Operates to 200°C
- ▶ Capillary length: 1.8 m (standard)
- ▶ Fast 300 ms sampling response
- ▶ Sample consumption rates from 0.8 to 20 ml/min
- ▶ Swagelok 1/16" or 1/8" connection
- ▶ Corrosion resistant option available
- ▶ Fast response 0.9 m capillary also available, with sample consumption rates from 1.6 to 20 ml/min
- ▶ Hot-zone inlet sampling option
- ▶ Flexible construction



## QIC HT250 INLET:

- ▶ Sample pressure range 2 bar to 100 mbar
- ▶ Heated to 250°C
- ▶ Sample consumption rates from 0.8 to 20 ml/min
- ▶ Capillary length: 1.8 m
- ▶ Swagelok 1/16" or 1/8" connection
- ▶ Interchangeable with standard QIC Inlet
- ▶ Corrosion resistant option available
- ▶ Flexible and robust steel hose

## QIC HT450 INLET:

- ▶ Heated to 450°C
- ▶ Swagelok 1/16" connection



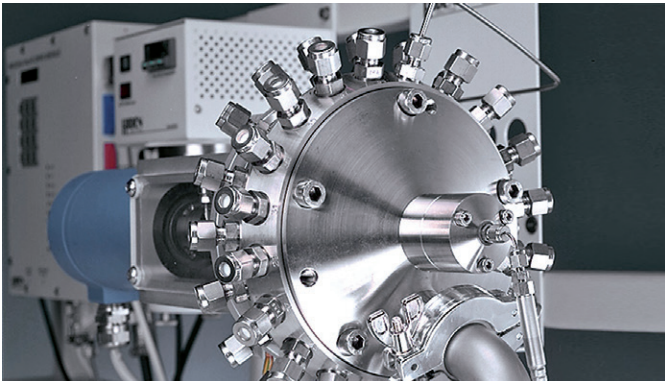
## HOT-ZONE INLET:

- ▶ For sampling from furnaces; interface from furnace to QIC
- ▶ Includes heated filter assembly
- ▶ Allows direct sample analysis to 1700°C
- ▶ General design to suit most furnaces



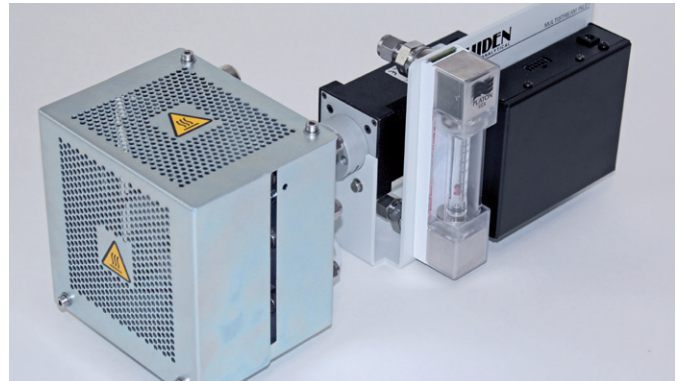
## TGA-MS:

- ▶ A range of interfaces are available for TGA-MS evolved gas analysis
- ▶ Specially designed to suit designated TGA instrument
- ▶ Most manufacturers and models covered



**PROTEUS:**

- ▶ 20, 40, 80-way multi-port valve
- ▶ Heated to 120°C
- ▶ Standard flow > 100 ml/min
- ▶ Low flow configuration - from 4 ml/min
- ▶ High flow configuration - to 10 L/min



**MULTI-STREAM SELECTOR MSV:**

- ▶ 4, 8 or 16-way available
- ▶ Heating option (160°C)
- ▶ Corrosive option
- ▶ Sample flow rate : 50 ml/min
- ▶ Flow meter option



**TWIN CAPILLARY INLET:**

- ▶ Typical application - measuring input and output of reaction vessel
- ▶ Heated to 160°C
- ▶ Fast switching valve between capillaries
- ▶ Two capillaries of either 0.9 m or 1.8 m

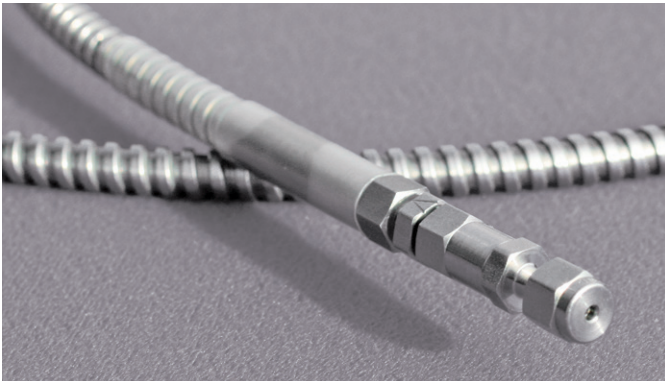


**QIC GLOVEBOX:**

- ▶ Heated to 200°C
- ▶ Provides low dead volume interface with glovebox

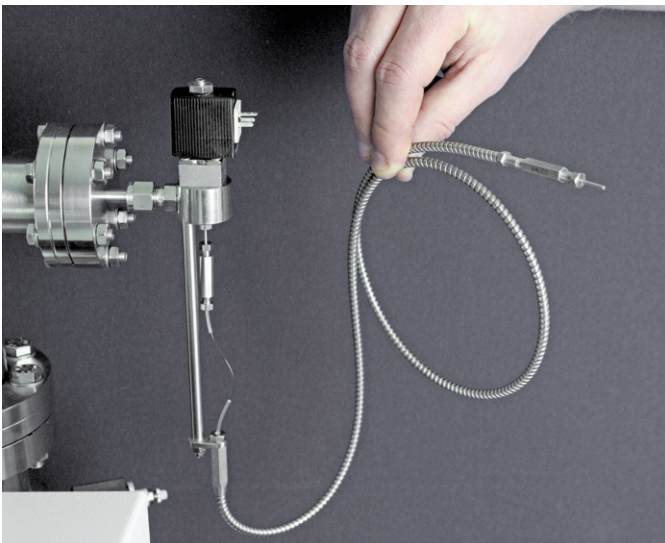
**QIC HEATED EXTENSION:**

- ▶ Available as upgrade to standard QIC systems
- ▶ Extends length by 2 m (standard extension) or 4 m, 6 m on request



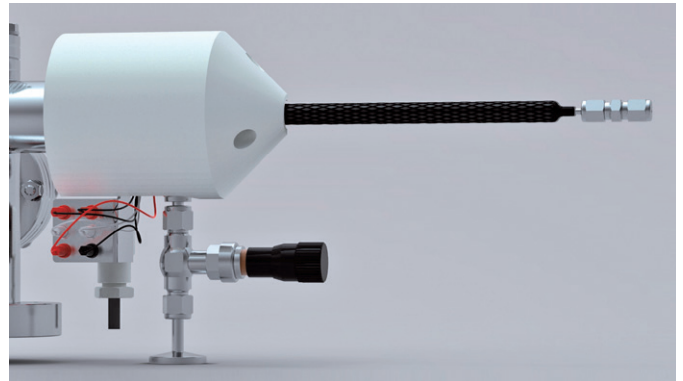
#### LOW PRESSURE STAINLESS STEEL CAPILLARY:

- ▶ Sample pressure range 250 to 25 mbar
- ▶ Operates to 200°C
- ▶ Capillary length: 0.9 m
- ▶ All stainless steel assembly
- ▶ Swagelok 1/16" or 1/8" connection
- ▶ Interchangeable with regular capillary in standard QIC systems
- ▶ Corrosion resistant option available



#### MICRO-FLOW INLET:

- ▶ Sampling rate 12 µl/min. 24 µl/min option
- ▶ Single or multi-capillary inlet option
- ▶ 8 - 16 s response. Specially engineered to maintain a good response



#### VERY LOW PRESSURE SAMPLING INLET:

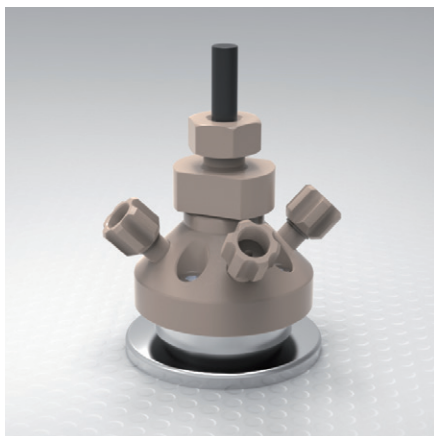
- ▶ Sample pressure range 10 to 1 mbar
- ▶ Heated to 120°C
- ▶ Capillary length: 0.3 m
- ▶ Swagelok 1/8" connection
- ▶ Rigid construction



#### HT/HP GAS SAMPLER:

- ▶ Sample pressure range 0.1 to 30 barg.
- ▶ Connects to standard QIC Inlet
- ▶ Heated to 200°C
- ▶ Normal flow 400 ml/min

# Inlets with Liquid Sampling



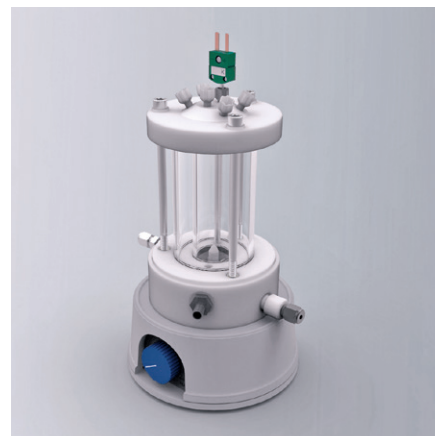
## DEMS

A differentially pumped mass spectrometry inlet for in situ mass resolved determination of gaseous or volatile electrochemical reactant, reaction intermediates and products in real time.



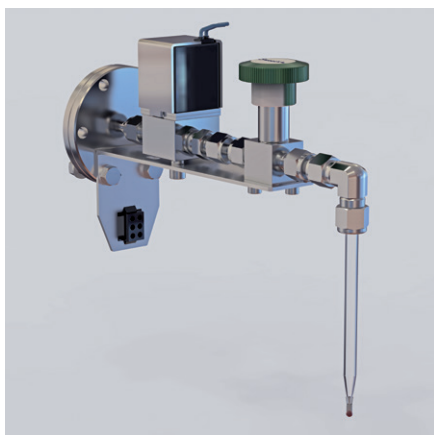
## RECIRCULATING PROBE

For analysis of sample with continuous flow, extracted sea or estuary water for example.



## CUVETTE

Cuvette style sample cell for biofuel research.



## ENZYME KINETICS PROBE

An all glass probe for the study of the chemical reactions that are catalysed by enzymes.



## DIRECT MEMBRANE INLET PROBE

For immersion and/or insertion in liquid or sludge sample, soil core sampling for example.

# HiddenAPPLICATIONS

Hidden's quadrupole mass spectrometer systems address a broad application range in:

## GAS ANALYSIS

- ▶ dynamic measurement of reaction gas streams
- ▶ catalysis and thermal analysis
- ▶ molecular beam studies
- ▶ dissolved species probes
- ▶ fermentation, environmental and ecological studies



## SURFACE ANALYSIS

- ▶ UHV TPD
- ▶ SIMS
- ▶ end point detection in ion beam etch
- ▶ elemental imaging – 3D mapping

# HIDEN

ANALYTICAL

Hidden Analytical Ltd.  
420 Europa Boulevard  
Warrington WA5 7UN England

**T** +44 [0] 1925 445 225

**F** +44 [0] 1925 416 518

**E** [info@hidden.co.uk](mailto:info@hidden.co.uk)

**W** [www.HiddenAnalytical.com](http://www.HiddenAnalytical.com)



## Sales Offices:

We have sales offices situated around the globe. **Visit our website for further information.**

## PLASMA DIAGNOSTICS

- ▶ plasma source characterisation
- ▶ etch and deposition process reaction kinetic studies
- ▶ analysis of neutral and radical species



## VACUUM ANALYSIS

- ▶ partial pressure measurement and control of process gases
- ▶ reactive sputter process control
- ▶ vacuum diagnostics
- ▶ vacuum coating process monitoring