

## PRODUCT DATA SHEET

# Sigma4000 Multipoint Stream Selectors

## Dramatically reduce the cost of ultra-high-purity gas monitoring

By multiplexing several sampling points to two ta3000 or ta5000 process gas analyzers, a gas manager can ensure that ultra-high-purity (UHP) quality product is supplied to process tools without dedicating an instrument to each gas stream. Controlled by the process gas analyzer, a Sigma4000 stream selector can poll several gas streams in sequence or can be programmed to switch between the inlets and outlets of large-scale purifiers to verify their performance.

### Get the most out of your analyzer

Sigma4000 multipoint stream selectors improve the confidence in your gas supply by making it practical to monitor impurity concentrations such as hydrogen, carbon monoxide, carbon dioxide, methane and non-methane hydrocarbons in all your most critical gas streams.

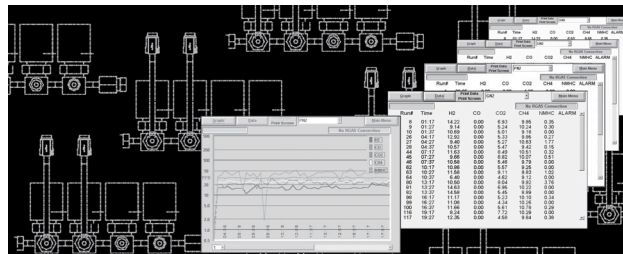
### Technical excellence

Rapid sequencing between gas streams requires high flow velocity and low dead volume in each sample flow path. To meet this challenge, Sigma4000 stream selectors incorporate a specialized purge assembly and bypass network that eliminates dead volume upstream of each shut-off valve, while maintaining sample flow. Sample cross-contamination is prevented by eliminating dead volume downstream of each valve and by rapidly purging the common flow channel to the analyzer via a precisely designed bi-flow manifold. Only orbitally welded or vacuum-brazed joints are used in the analyzer flow path.

### Data archiving/presentation

Data collection viewer software organizes data from the process gas analyzer in tabular form, and on 24-hour trend reports. Sample stream ID number, time of day, analytical data and any alarm conditions are readily available for local viewing, or for sharing over networks.

Sigma4000 has sample inlet positions for sequential or "on demand" analysis of up to four separate oxygen or inert gas streams. In addition, two separate sampling positions are reserved for permanent connection of zero and span gases. The sequence and frequency of analysis can be specified via the stream sequencer program in the process gas analyzer.



## KEY BENEFITS:

- Pressure-controlled splitter provides low flow rate without reducing flow velocity in external sample lines
- Digital display of manifold pressure
- Gas handling components located in electrically isolated purge housing for safe operation
- Designed to maintain high flow velocities – free of dead volume and uses only UHP wetted components
- Compatible with ta3000 and ta5000 process gas analyzers

## APPLICATIONS:

- Purifier outlet monitoring
- Multi-gas analytical racks

## KEY MARKETS:

- Air separation
- Semiconductor
- LCD/LED display manufacturing

**PERFORMANCE SPECIFICATIONS**

<b>Gas Inlets</b>	Sigma4000: 4 samples, ¼-inch face seal fitting, female, S.S. Zero gas, Span gas: ¼-inch face seal fitting, female, S.S. Purge gas: ¼-inch face seal fitting, female, S.S.
<b>Sample Requirements</b>	Supply Pressure: 15 to 40 psig (1.03 to 2.76 bar) Continuous Flow: 0.35 L/min. N <sub>2</sub> @ 15 psig (1.03 bar)
<b>Gas Outlets</b>	Selected stream outlet: 1/16-inch compression fitting Sample vent: ¼-inch face seal fitting, female, S.S. Purge vent: ¼-inch face seal fitting, female, S.S.
<b>Front Panel</b>	Stream ID number Pressure, selected stream
<b>Electrical</b>	Mains: 115 VAC / 50 to 60 Hz, 230 VAC / 50 to 60 Hz, or 100 VAC / 50 to 60 Hz Operating current: 3 amps, max.
<b>Materials of Construction</b>	Manifold: Orbitally welded UHP branch valves; <1x10 <sup>-9</sup> cc-atm/sec He leak rate Sample Inlets: Orbitally welded EP tubing
<b>Control/Communication</b>	Serial RS-232 communication link from ta3000/ta5000 sequencer program to stream selector Stream ID number and data reported to optional host computer by ta3000/ta5000
<b>Physical dimensions (W x H x D)</b>	427 x 133 x 457 mm (16.8 x 5.2 x 18 in.)
<b>Weight</b>	Net: 17.3 kg (38.0 lb) Shipping: 18.9 kg (41.5 lb)

**SALES, SERVICE & MANUFACTURING**

**USA - Pennsylvania**

150 Freeport Road  
Pittsburgh PA 15238  
Tel: +1 412 828 9040  
Fax: +1 412 826 0399

**USA - Delaware**

455 Corporate Blvd.  
Newark DE 19702  
Tel: +1 302 456 4400  
Fax: +1 302 456 4444

**Canada - Alberta**

2876 Sunridge Way NE  
Calgary AB T1Y 7H9  
Tel: +1 403 235 8400  
Fax: +1 403 248 3550

**WORLDWIDE SALES AND SERVICE LOCATIONS**

**USA**

Tel: +1 713 466 4900  
Fax: +1 713 849 1924

**Brazil**

Tel: +55 19 2107 4100

**France**

Tel: +33 1 30 68 89 20  
Fax: +33 1 30 68 89 99

**Germany**

Tel: +49 2159 9136 0  
Fax: +49 2159 9136 39

**India**

Tel: +91 80 6782 3200  
Fax: +91 80 6780 3232

**Singapore**

Tel: +65 6484 2388  
Fax: +65 6481 6588

**China**

Beijing  
Tel: +86 10 8526 2111  
Fax: +86 10 8526 2141  
Chengdu  
Tel: +86 28 8675 8111  
Fax: +86 28 8675 8141  
Shanghai  
Tel: +86 21 5868 5111  
Fax: +86 21 5866 0969



© 2019, by AMETEK, Inc. All rights reserved. Printed in the U.S.A. F-0189 Rev 7 (0119)  
One of a family of innovative process analyzer solutions from AMETEK Process Instruments. Specifications subject to change without notice.

