

# Flow<sup>®</sup> Control

The Magazine of Fluid Handling Systems

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Recognizing  
Fluid Handling  
INNOVATION

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# 2011 flow control innovation awards

## And the Winners Are ...

### Flow Control Recognizes Fluid Handling Technology Breakthroughs

It is with great honor that we present to you here the winners of the **2011 Flow Control Innovation Awards** program. The following technologies represent key fluid handling technology innovations in the categories of fluid measurement, control and containment. In the June issue of *Flow Control*, we presented this year's Innovation Awards nominees and offered open voting through Aug. 1, during which time we received more than 1,100 reader votes. Here we provide short overviews on each of the winning technologies, along with snapshot summaries indicating the key innovation represented by each of the winning technologies. In the October issue, we will provide case studies on each of the winning technologies. If you have questions about any of the Innovation Award winners or the Innovation Awards program in general, please e-mail [FlowControl@GrandViewMedia.com](mailto:FlowControl@GrandViewMedia.com).



## iPhone Raffle Winner:

**Brian Gorrell,  
Sacramento  
Municipal  
Utility District**

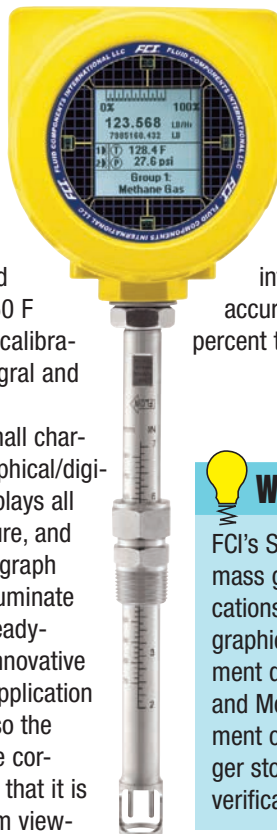
*Photo courtesy of Apple  
([www.apple.com](http://www.apple.com))*

## MEASUREMENT

### ST100 Thermal Mass Air/Gas Flowmeter

FCI's ST100 Series thermal mass air/gas flowmeter provides a graphical user readout, an on-board optically activated keypad, a comprehensive selection of analog outputs and bus communications, a pressure measurement option, dual-element configurations, multiple calibrations, 10 user-selectable gas calibrations, a built-in data logger, and a robust, highest-integrity transmitter. It also features a selection of flow elements matched to a user's application, temperature service up to 850 F [454 C], can be configured with FCI's VeriCal in-situ calibration verification system, and is available in both integral and remote configurations up to 1,000 feet (300m).

The typical readout/display in this segment is a small character, two-line LCD. The ST100 Series features a graphical/digital, backlit LCD readout, which continuously displays all measured parameters, flowrate, total flow, temperature, and pressure, as well as flowrate in a 0-100 percent bar graph and the active calibration group. For alarms, icons illuminate and flash upon a trip condition and will change to steady-state when acknowledged. The display also has an innovative writeable field to show the user's gas composition, application name, pipe or process name, or even a tag number so the user can immediately associate the readings with the correct process. Another unique feature of the display is that it is rotatable electronically by the user to ensure optimum view-



ing angle. The meter offers outputs of analog and bus communication, including triple 4-20mA, frequency/pulse, relays, HART (version 7), Foundation Fieldbus, Profibus-PA, and Modbus. The meter can be configured for dual inputs, which can be applied either as a two-point averaging system (for larger line size applications) or as a cost-saving solution of multiplexing two totally independent discrete sensors into a single, common transmitter. The meter provides accuracy to 0.75 percent of reading (compared to the 1 percent to 2 percent typical in this product segment).



### WHAT'S INNOVATIVE?

FCI's ST100 Series is a feature-rich and adaptable thermal mass gas flowmeter solution for industrial process applications, providing such key features as: a unique digital/graphical display for continuous viewing of all measurement data; 4-20mA, HART 7, Foundation Fieldbus, Profibus, and Modbus outputs; exclusive triple variable measurement of flow, temperature and pressure; onboard data logger stores five calibrations; and VeriCal in-situ calibration verification.

# CONTROL

## FUTUR OMEGA-Series AODD Pumps

**ALMATEC's** FUTUR OMEGA-Series is a line of air-operated double-diaphragm pumps designed for high-end semiconductor applications. The line features a patented cascade sealing system and a patented air-control system for lubrication-free and maintenance-free operation.

By employing PTFE or stainless steel for all outside housing parts and nonwetted parts, safety is improved because the pumps are



resistant to acid mists and acid leaking. The optimized PTFE material of the diaphragm has a doubled-strength against flexural stress compared to standard PTFE, helping to reduce maintenance and production costs.

Solid housing parts are machined on modern CNC-machines, which enable the smallest possible tolerances. The solid housings absorb mechanical vibrations and noise level.



### WHAT'S INNOVATIVE?

The FUTUR OMEGA-Series, with its solid and complete PTFE or stainless steel design, using the newest generation of PTFE compounds and diaphragm geometry, has been developed for high-end semiconductor applications with double the lifetime of most AODD pumps for similar applications.

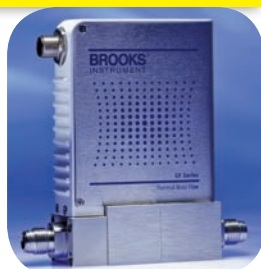
## GF Series Mass Flow Controller

### Brooks

**Instrument's** GF Series mass flow controller is a highly modular, user-programmable, metal-sealed device, based

on Brooks' expertise in pressure transient insensitive (PTI) technology, that is designed to minimize process gas flow variation due to pressure and temperature fluctuations.

At the heart of the GF Series is Brooks MultiFlo, a patented technology that allows users to select new gas calibrations and full-scale ranges without the trouble and cost of removing the mass flow controller from the gas line. A major advancement over traditional single-point gas conversion factors, MultiFlo mass flow controllers typically deliver a three times improvement in accuracy through advanced gas modeling and compensation for non-ideal/non-linear gases.



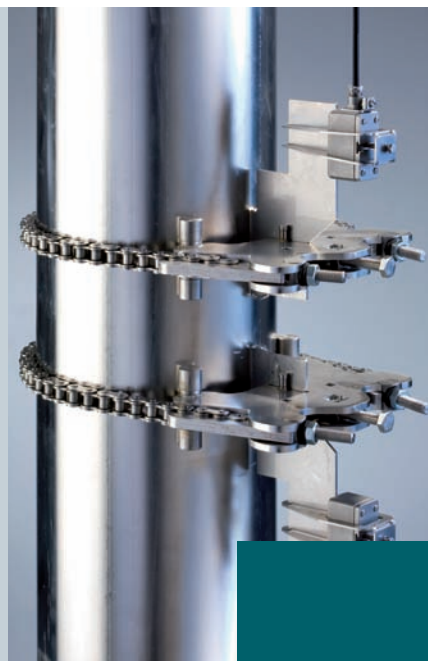
### WHAT'S INNOVATIVE?

The GF Series' MultiFlo gas and range configurability can be reconfigured for new gas calibrations and full-scale ranges without the time and cost of removing the device from the gas line.

## FLEXIM

### HIGH ACCURACY FLOW METERS

#### For Extreme Temperatures & Pressures



- non-intrusive ultrasonic clamp-on technology
- for temperatures from  $-276^{\circ}\text{F}$  to  $750^{\circ}\text{F}$
- independent of process pressure
- multi-beam for high accuracy
- wide turn down
- installation without process shut down
- no maintenance
- no pressure loss
- standard volume calculation
- portable and permanent models available



**FLEXIM**

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Phone: (631) 492-2300  
Toll Free: 1-888-852-7473

#### TYPICAL APPLICATIONS:

HEAT TRANSFER OILS | BITUMEN | PITCH/TAR |  
COKER FEED | CRUDE OILS/SYNTHETIC CRUDE |  
GAS OILS | REFINED PETROLEUM PRODUCTS |  
HOT OR TOXIC CHEMICALS | WATER | SLUDGES |  
MOLTEN SALT | LNG | CRYOGENIC LIQUIDS