



# Company Overview

**PRESSURE SENSORS**

**MASS FLOW SENSORS**

**ENVIRONMENTAL SENSORS**

**MICROPUMPS**

**SENSOR SIGNAL CONDITIONING**

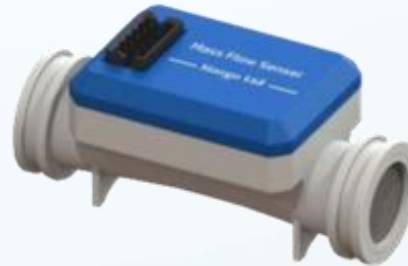
## WHO IS SERVOFLO

SERVOFLO IS A STOCKING DISTRIBUTOR PROVIDING  
TECHNICAL AND LOGISTICAL SERVICES FOR:

Pressure Sensors



Mass Flow Sensors



Humidity Sensors



Pressure Transducers



Micropumps



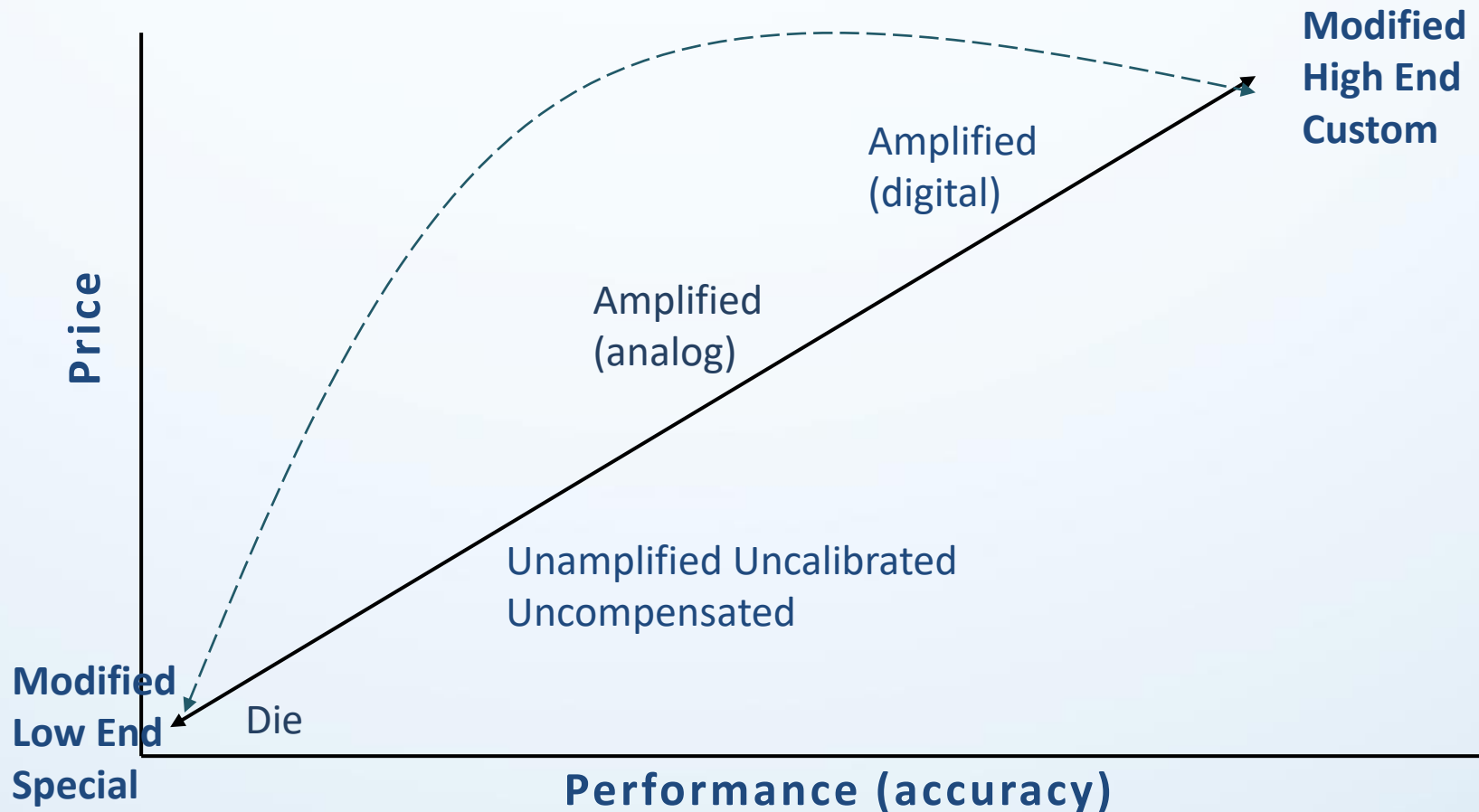
Other products  
include vacuum  
sensors, hydrogen  
sensors, and signal  
conditioning IC's

## WHY SERVOFLO

- Over 30 years experience working with engineers to find solutions to design challenges
- Knowledge of many application areas including medical, consumer, HVAC, automotive and industrial
- In-house technical support and FAE resources at each factory
- Strong, loyal relationship with each factory
- Modification & customization possible
- Variety of solutions gives customers choices & second sources
- Array of logistical services, inventory plans

OUR GUIDING BUSINESS PRINCIPLES

GUIDE THE CUSTOMER THROUGH THE PRICE/PERFORMANCE SPECTRUM IN A  
SUPPORTIVE, CONSULTATIVE MANNER



## OUR TEAM

- David Ezekiel, Owner/VP: [david@servoflo.com](mailto:david@servoflo.com)
- Neal Thomas, Sales & Applications: [neal@servoflo.com](mailto:neal@servoflo.com)
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- Karen Brogan, New Business Development, [karenb@servoflo.com](mailto:karenb@servoflo.com)
- Seta Davidian, Marketing Manager: [seta@servoflo.com](mailto:seta@servoflo.com)
- Fully-staffed customer service: Leslie Sherman: [leslie@servoflo.com](mailto:leslie@servoflo.com)
- Fulfillment Team: Lesley Kanef & Maureen Berarducci:  
[lesleyk@servoflo.com](mailto:lesleyk@servoflo.com) & [maureen@servoflo.com](mailto:maureen@servoflo.com)
- Distributor Services: Samples, stock, blanket orders, technical support
- Application Support: Direct or via factory

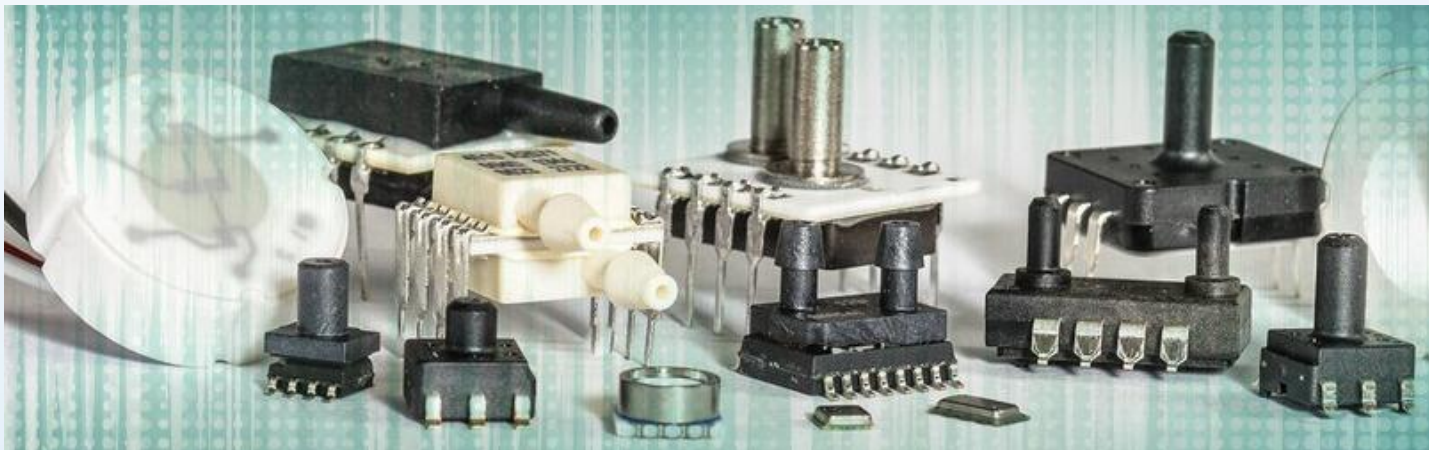
## PRESSURE SENSOR SUMMARY

### Air pressure sensors

- Complete range includes uncalibrated and unamplified to fully calibrated with digital and analog outputs

### Liquid pressure sensors

- Elements (ceramic, stainless steel & silicon piezoresistive)
- Transmitters



## AIR PRESSURE – GAUGE, DIFFERENTIAL OR ABSOLUTE



### Calibrated/Compensated, Digital or Analog Output

Customers need not provide more than 1 or 2 calibration points

Component selection based on price/performance targets

Digital only: Highest resolution output. Tend to use less power

Goal is to minimize space usage, component count & labor content

### Calibrated, Compensated, mV output

High volume customer with calibration capabilities

Can generally be used with high res microprocessors without generating additional signal noise

Auto zero possible

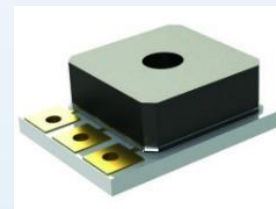
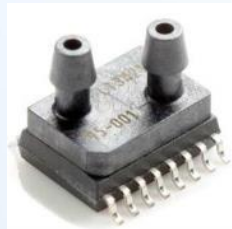
### Uncalibrated, Uncompensated, mV output

High volume customer with calibration capabilities

Best for benign temperature

One point calibration & go

Low cost, potentially disposable





## AIR PRESSURE – ULTRA LOW PRESSURE

### ULTRA LOW PRESSURE SENSORS/TRANSMITTERS

- 0.1" to 5" H<sub>2</sub>O; air and non-corrosive gases
- Amplified, Calibrated and Compensated
- Digital or Analog Output
- Differential or Gauge



Packaged, capacitive  
pressure sensors



New Ultra Low  
Sensors Available



Digital I<sup>2</sup>C, Piezoresistive



Ultra-sensitive, flow  
through technology



## PRESSURE SENSORS FOR LIQUID AND HARSH MEDIA

### MEDIA COMPATIBLE SENSORS & TRANSDUCERS

- 1 psi to 100 mPa
- Ceramic or piezoresistive silicon pressure sensor elements to fully packaged models
- New 9 mm ceramic sensor
- Differential or Gauge
- Direct contact with liquid or corrosive media
- High burst pressure and overpressure
- Excellent performance under changing temperature environment
- Potential for direct manifold mount



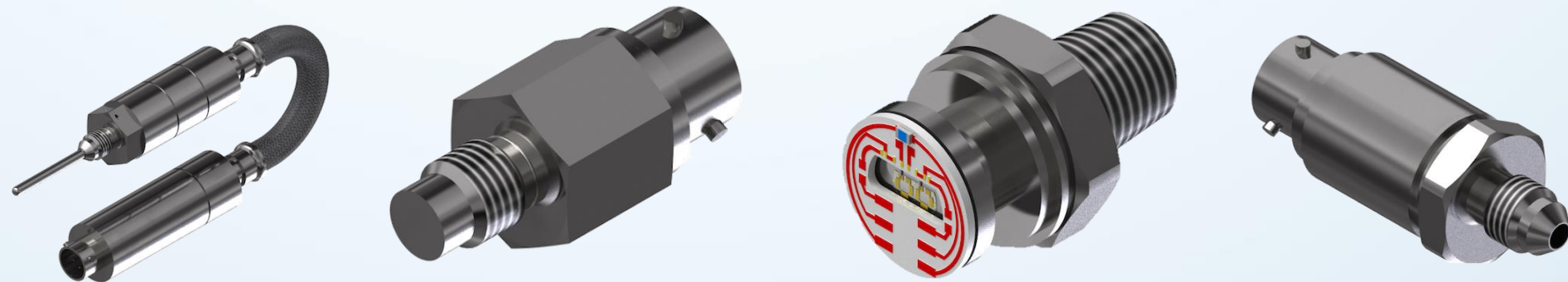
## SPECIALTY PRESSURE SWITCHES

- Various pressure ranges as low as 3-150 psi and as high as 0-5000 psi
- Microswitch snap action or blade contact technology
- Can be used with air, water, and oil in temperatures ranging from -40 to 120°C



## SPECIALTY PRESSURE TRANSDUCERS – CRYOGENIC, HIGH TEMPERATURE

- Cryogenic grade sensors: -196°C to 200°C, up to 2000 psi
- Models designed for unique applications that require customization
- Standard, modified or custom products
- Military, space flight, test equipment and more



## ENVIRONMENTAL SENSORS

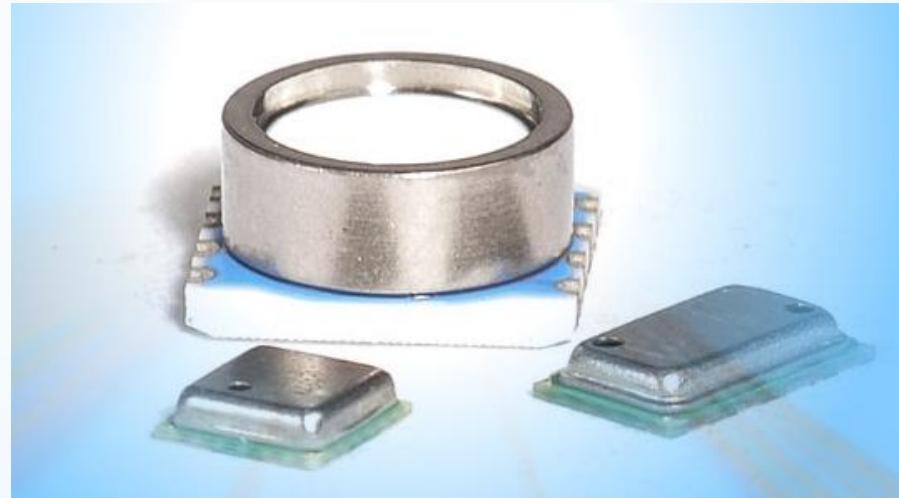


Barometric  
Humidity  
Temperature  
Oxygen  
Force  
Vacuum

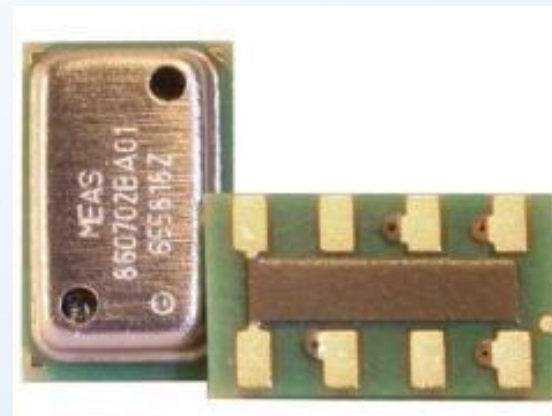
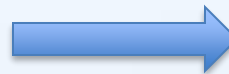
## BAROMETRIC SENSORS

### KEY FEATURES

- Analog or digital outputs
- Wide selection of price/performance
- Various packages

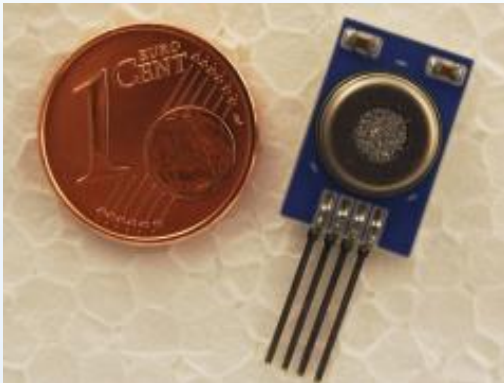


*3-in-1 Sensor MS8607 measures  
barometric pressure, humidity and  
temperature*



## HUMIDITY SENSORS, ELEMENTS AND DEW POINT

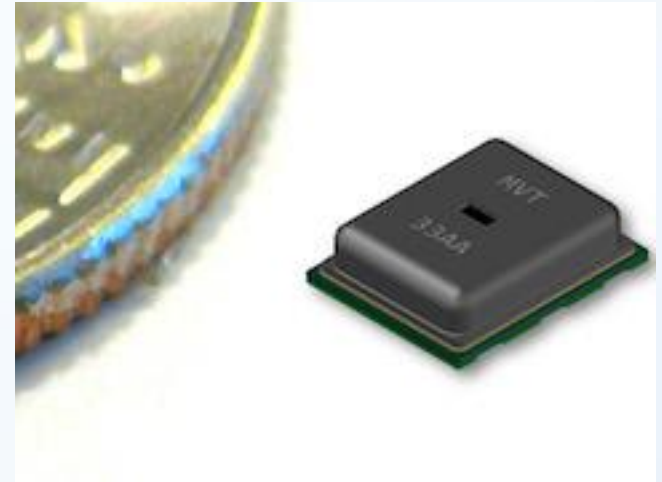
Our humidity line ranges from basic humidity elements to packaged humidity and temperature solutions. We have a large offering of digital humidity sensors with an I2C and analog outputs.



## TEMPERATURE SENSORS

### MVT4000D TEMPERATURE SENSING IC

- High accuracy up to  $\pm 0.2^{\circ}\text{C}$
- 3 mm X 2.4 mm X 0.8 mm
- Configurable resolution of 8, 10, 12, or 14 bits
- I2C
- Low current consumption
- Accepts 1.8 to 5.5VDC supply



*MANY PRESSURE SENSORS INCLUDE TEMPERATURE OUTPUT*



## OXYGEN SENSORS

- Zirconium-based, current limiting oxygen sensors
- Do not require periodic calibration or replacement
- Reference gases are not required for proper operation
- Accuracies of +/- 0.5% oxygen concentration for sensors
- Standard accuracies of +/- 1% F.S.
- 0.1% to 25% or 0.1% to 95% O<sub>2</sub> measurement ranges
- New FCX-M platform allows users to optimize package, output and performance for their application

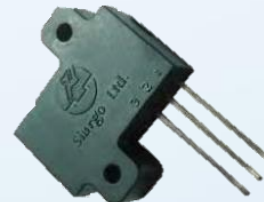
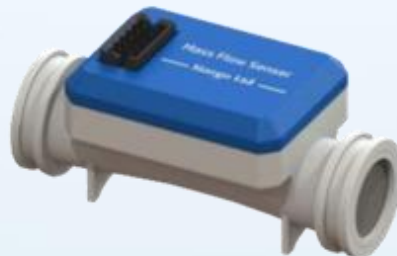


## MASS FLOW SENSORS FOR AIR & LIQUIDS CHANGE PICTURES

### SEVERAL MODELS WITH VARIOUS PACKAGES & RANGES

- mV or amplified analog or digital output
- Low sccm/minute up to several hundred SLPM
- Board level mass flow sensors to fully packaged transmitters
- Some models includes humidity, pressure & temperature
- Customization possible

APPLICATIONS INCLUDE MEDICAL, HVAC, LEAK DETECTION, PROCESS CONTROL



## MICROPUMPS



- mp6 micropumps for extremely low flow of air (18 ml/min) and liquids (7 ml/min).
- Higher flow pumps from TCS also available, 0-400 ml/min up to 12 lpm. New models being added.

*Applications include medical drug delivery, fuel cells, test instruments, mobile applications, consumer, cell culturing and much more*

## UNIQUE OFFERINGS – DENSITY SENSORS



### **DLO-M2 Density Sensor for Liquids**

- Inline measurement of density characterizes liquid properties
- Typical applications include fuel mixtures, tank trucks



### **DGF-I1 Density Sensor for Gases**

- Determine gas mixtures and quality using density measurement
- Typical applications include welding machings, food packaging, testing of clean gases, gas cylinders

## UNIQUE OFFERINGS – HYDROGEN SENSORS



### PGS1000 Hydrogen Sensor

- Fast response time
- Temperature-compensated
- Digital output



### PGS4100 Hydrogen Sensor

- Analog or digital outputs
- Remains accurate in harsh environments
- Compensated for humidity and barometric pressure

## APPLICATIONS MEDICAL

- Standard products
- Modified products
- Customized products
- All pressure ranges
- Deep Vein Thrombosis
- Breath Detection
- Hospital Beds
- Dialysis Machines
- Breathalyzers
- Oxygen Concentrators
- Incontinence Trainers
- Surgical Vacuum
- Non-Invasive Blood Pressure (human & veterinary)
- Wound Therapy
- Breast Pumps
- Infusion Pumps
- Dosing systems
- Optical Pressures
- Gas moisturizing
- Dental fluid delivery and pressure measurement
- Catheters

## APPLICATIONS CONSUMER

- Low cost standard products
- Value-priced modified
- Dive Computers/Watches
- Weather Systems/Environmental Monitoring
- Games/Consoles (power products and environmental monitoring)
- Sky Diving and Skiing Altitude sensors



## APPLICATIONS HVAC & AUTOMOTIVE

### HVAC/Environmental

- Wide range of price-performance for low pressure measurement
- Humidity measurement
- Media-compatible sensors
- AC Balancing
- Thermostats
- VAV Controllers
- Filter Blockage
- Duct Flow
- General Environmental Monitoring

### Automotive

- Leak Testing
- Seat Comfort Systems
- Tire Pressure
- MAP Sensing
- Mass Air Flow
- Oil Pressure
- Hydraulic Pressure
- Cabin Environmental Conditions

## APPLICATIONS INDUSTRIAL

- Standard products
- Media compatibility
- All pressure ranges
- Housing available on request
- Water Pressure (municipal, eco monitoring, well water)
- Transducers/Transmitters/Gauges
- Industrial Hygiene (sensors, pumps)
- Industrial Printers
- Food Freshness (O<sub>2</sub>, RH, etc)
- Weight/Scales
- O<sub>2</sub> Monitoring Systems
- Pressure Regulators
- Fuel Cells
- Industrial Pumps for Wafer Processing
- Speed/Altitude for planes, drones, boats
- 3D Printers
- Hard Vacuum Measurements
- Toilet Systems
- Beverage Systems
- Robotics
- Vacuum Systems for Dairies and Maple Sugaring Systems

# CONTACT INFORMATION

## HOW MAY WE HELP YOU

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- Blog: [blog.servoflo.com](http://blog.servoflo.com)

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