

# Your Source For Instrumentation, Process, and Analysis Components For Over 65 Years



65 Years in Business



**INSTRUMENT  
ASSOCIATES**

## INDUSTRIES SERVED:

Chemical & Petrochemical • Oil & Gas • Engineering & Construction • Refining • Power Generation • Analytical  
Steel Manufacturing • Pharmaceutical • Pulp & Paper • Marine • Food & Beverage • Agricultural





# IA INSTRUMENT ASSOCIATES MANUFACTURERS



## Ametek US Gauge

Pressure gauges, process gauges, thermometers and diaphragm seals.



## Autrol

"Smart" pressure, differential pressure and temperature transmitters.



## Bartec

Manufacturer of electric trace heating elements that protect against frost, maintain temperature, are corrosion proof, self-regulating and will not over heat while overlapping.



## Filter Technology

Liquid and dust filtration bags and vessels.



## Gas Clip

Portable gas detection, docking stations and accessories.



## H2scan Corporation

Provides the most accurate, tolerant and affordable hydrogen leak detection and process gas monitoring solutions for industrial markets.



## Inline Ball Valve Company

Ball valves-multiport, direct mount, sanitary and flanged. Valve automation.



## ITT Conoflow

Regulators, actuators, positioners, transducers and diaphragm seals.

## ITT Neo-Dyn

Pressure switches, differential switches and temperature switches.



## James C. White Company, Inc.

Manufacturer of Tubetrack® and Cable-Race® tray system, Instrument Mounting Stands, and Unit Header® manifolds.



## Kobold

Flow, pressure, level and temperature instrumentation products.



## Koch Filter Corporation

Manufacturer of air filters for industrial plants, OEM replacements, paint overspray, pharmaceutical in multiple-pleated, disposable, dust collection, gas turbine cartridges, paint spray booth filters.



## Krohne

Flow, level and temperature measurement and analysis instruments.



## Kurlyama of America, Inc.

Provides complete lines of thermoplastic, rubber and metal hose products and accessories including couplings and fittings for use in industrial and commercial applications.



## Motorola

Portable radios, mobile radios, repeaters, controllers and accessories.



## NOSHOK

Pressure gauges and transmitters. Thermometers, needle valves and seals.



## NRP Jones

Hydraulic, industrial and armored hose. Fittings, adapters and assemblies.



## OPW

Manufacturer of swivel joints, loading arms, quick disconnect fittings for a broad range of uses in the petrochemical, mining, refining, ink and paint industries.



## Parker Instrumentation Products

Instrument tube fittings, ball, plug and check valves, manifolds and tubing.



## Precision Digital

Digital panel meters that accept a wide variety of inputs, strain gauge, high voltage and current, pulse, serial Modbus, thermocouple and RTD. Single and dual line configurations with sunlight readable displays and extra-large LEDs.



## Pyromation

RTD's, thermocouples, thermowells and temperature transmitters.



## Reotemp

Manufacturer of temperature and pressure instrumentation, thermometers, thermocouples, thermowells, pressure gauges, transmitters, valves and manifolds.



## Servomex

The world leader in gas analysis providing reliable, stable and accurate gas measurements in a diverse range of applications.



## Slatepages

Removeable laser etched tags with a QR code that can store all pertinent data. Retrieve data from Thermaxx Reader App.



## Staubli

Quick connector systems for all types of fluids, gases and electric power, quick mold change, and tool changers.



## SVF Flow Controls

Ball valves, high purity valves, actuators and controls.



## Thermamaxx

Smart jacket, removeable, form-fitting insulation blankets for pipes, valves, steam traps and equipment.



## Velan

Extensive range of bimetallic steam traps, for applications ranging from standard steam lines to superheated steam.



## Viega

Copper and stainless steel pipe joining systems.



## Williamson

Infrared temperature measurement for every application.



## Winters

Pressure gauges, switches, transmitters, and thermometers.





**Parker Autoclave Engineers**  
High pressure fittings, valves, and tubing as well as specialty products, tools and installation.



**Parker Balston**  
Filters for all of your applications, as well as air dryers and nitrogen gas generators.



**Parker Bestobell**  
Cryogenic valves for industrial gas applications, healthcare, pharmaceuticals, food and beverage applications.



**Parker Brass Products**  
Quality tube fittings, hose & hose fittings, brass and composite fittings, quick disconnect couplings, valves and assembly tools.



**Parker domnick hunter**  
High-quality filtration solutions to meet the processing needs of a diverse range of industrial process applications.



**Parker Filtration**  
Filter system solutions for air, fuel, natural gas, hydraulic fluids and water systems.



**Parker Finite**  
Filtration products for compressed air, gas and steam, air dryers, drains and accessories.



**Parker Instrumentation Products**  
Instrument tube fittings, ball, plug, needle and check valves, manifolds and tubing.



**Parker Parflex**  
Metal, plastic and PTFE tubing and hose. Bundled steam and electric trace tubing are also available as well as SS/TFE hoses.



**Parker Partek**  
For PFA and PTFE fittings and valves for the control and application of liquids and gases.



**Parker PGI**  
Instrumentation valves, manifolds, measurement accuracy products, sampling systems, chargers, wellhead components, thermowells and temperature probes.



**Parker Porter**  
High precision instrumentation, flowmeters, regulators, mass flow controllers and metering valves.



**Parker Quick Couplers**  
Couplings used to connect and/or disconnect hydraulic or pneumatic lines quickly and easily without the use of tools.



**Parker Racor**  
The leader in fuel, air, oil and coolant filtration systems for internal combustion engines and fuel delivery systems.



**Parker Skinner Gold Ring**  
Industrial solenoid valves, operators and manifolds, as well as process control valves.



**Parker Texas Thermowell**  
Now part of the PGI division, offering thermowells, T/C's RTD's, flange connectors and sample probes.



**Parker Velcon**  
Filtration and clarification products for hydrocarbon fuels, oils and other fluids.



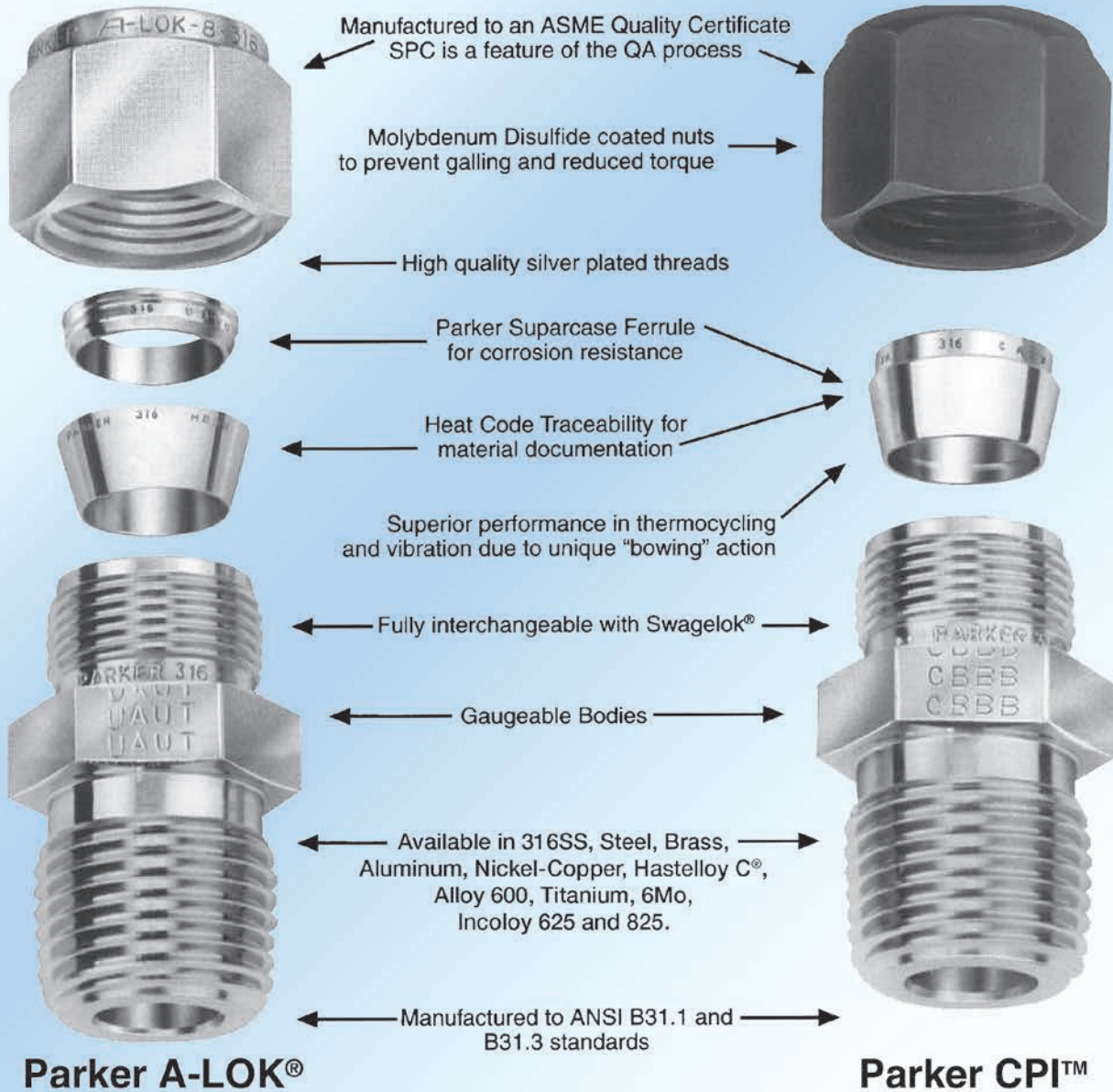
**Parker Veriflo**  
Regulators, valves, connectors, manifolds and changeover systems. Most ship in 7 business days.

**Parker Tube Fittings**

**Parker CPI™ and A-LOK® Fittings are Interchangeable With Swagelok®**

**Parker's  
Swagelok® Equivalent**

**Parker's  
Premier Fitting**





**Parker** *Tube Fittings*



Parker Hannifin Corporation  
Instrumentation Products Division  
1005 A Cleaner Way  
Huntsville, AL 35805  
Office 256-881-2040  
Fax 256-881-5072

Dear Customer:

Instrument Associates requested that I write you regarding the interchangeability of the PARKER A-LOK® Tube Fitting and Swagelok Company® Tube Fitting. Parker guarantees that all A-LOK® fittings (including A-LOK® ended valves) are of equal quality to and will perform as well as the Swagelok® fitting. Parker guarantees that the A-LOK® fittings are completely interchangeable with all sizes of the Swagelok® fittings and individual components of the A-LOK® fittings can be intermixed with the components of the Swagelok® fitting including the new and old rear ferrule. In fact, since 1984, thousands of customers have successfully used the A-LOK® fittings in conjunction with the Swagelok® fitting.

I hope this letter helps to answer any questions regarding the interchangeable design of PARKER A-LOK® fittings. If more information is required, please feel free to call upon us.

Sincerely,

Tony Wyszowski  
General Manager



Parker Hannifin Corporation  
Instrumentation Products Division  
1005 A Cleaner Way  
Huntsville, AL 35805  
Office 256-881-2040  
Fax 256-881-5072

Dear Customer:

Instrument Associates requested that I write you regarding the interchangeability of the PARKER CPI™ Tube Fitting and Swagelok® Tube Fitting.

Parker guarantees the PARKER CPI™ fittings (including PARKER CPI™ ended valves), both as an assembly and as individual components, are completely interchangeable with the equivalent sizes, components and materials of the Swagelok® fittings; however, it should be remembered that the two (2) Swagelok® ferrules must be used as a single component when interchanged with the PARKER CPI™ ferrule. Parker guarantees that PARKER CPI™ components may be interchanged and used with Swagelok® components with the same confidence the user would have in using a complete set of components from either Parker or Swagelok®. This statement is only true provided the quality standards of the Swagelok® components are equal to those of the PARKER CPI™ components. I mentioned the above statement because it must be realized that we can verify the quality of the PARKER components while we have no control of the Swagelok® production standards.

I hope this letter helps to answer any questions regarding the interchangeable design of PARKER CPI™ fittings. If more information is required, please feel free to call upon us.

Sincerely,

Tony Wyszowski  
General Manager

## ***TUBING - "Making the Connection!"***

**When ordering Tube Fittings, don't forget to order your Tubing!**

Instrument Associates is your "One Stop" Service source offering seamless or welded, foreign or domestic stainless steel tubing in 316 or 304, copper as well as exotic alloys such as Monel, Hastelloy and others.

### **STOCK SIZES**

**316SS      Seamless      20' stock lengths**  
(can be cut to specified lengths and sent via UPS, up to 105")

**1/4" OD, 3/8" OD & 1/2" OD**



**Copper Coil**

### **Other Tubing Available**

**High Pressure  
Autoclave Tubing**



**Stainless Steel  
Coil**



**1/4" OD**

**Plastic Tubing**  
**1/8" OD, 1/4" OD, 3/8" OD & 1/2" OD**



**PE: Polyethylene Tubing**  
**PP: Polypropylene Tubing**  
**PVC: Polyvinyl Chloride Tubing**

***Ask about our Tubing Tools and Tube Bending Classes!***



# PRECISION DIGITAL ÷

Do you need a ground level display for your transmitters?

Do you need larger, brighter, easier to read displays?

## Popular Displays & Controllers



**Helios**  
Large Display Meters

- Great for outdoor applications
- Large 1.8" (46mm) digits
- Superluminous display
- On-board USB programming software

**ProtEX**  
Explosion-Proof Meters



- Ideal for hazardous areas or harsh environments
- Relays and output options
- Through glass buttons
- FM, CSA, Atex, CE, IECEx



**ProVu**  
Large Display Meters

- Dual-line, 6 digit display
- Superluminous display
- Onboard USB and programming software
- Satisfy multiple applications

**Trident X2**  
Large Display Panel Meter



- Large 1.20" (30.5 mm) digits
- Sunlight readable display
- 2 relays + 4-20 mA output
- Ideal for process and temperature applications



### Swivel Joints

- Intermediate/Drop/Apex Swivels
- Coupler Swivels
- Counterbalance Swivels



### Dry & Quick Disconnect Fittings



### Loading Systems Loading Arms

- Torsion Spring
- Counterweight
- Gas Strut
- Vapor Return Arms
- Spare Parts



### Loading Valves

### Couplers

- API Couplers
- Vapor Couplers





## Process Measurement and Control Products

*With Emerson Equivalents*

### Level Transmitters



**Tek-Sound 4200A Series**  
Ultrasonic Level Transmitter  
**TEK-SOUND 4200A**  
*Emerson 3100 Series*  
*Ultrasonic Level Transmitter*



**Guided Wave Radar Level Transmitter**  
**TEK-FLEX 4100B**  
*Emerson 5900C, 5300, 3300*  
*Radar Level Gauge*



**Tek-Wave 4300A Series**  
Non Contact Radar Level Transmitter  
**TEK-WAVE 4300**  
*Emerson 5400, 5600 Non Contact*  
*Radar Level Transmitter*

### Pressure Transmitters



**Smart Differential Pressure Transmitter**  
**TEK-BAR 3110B, AUTROL 3100D**  
*Emerson 3051 Coplanar*  
*Pressure Transmitter*



**Smart Gauge Pressure Transmitter**  
**TEK-BAR 3120B, AUTROL 3200G**  
*Emerson 2051 & 2088*  
*Pressure Transmitters*

### Temperature Transmitters



**Explosion-Proof Temperature Transmitter**  
**TEK-TEMP 2100A, AUTROL 2100A**  
*Emerson Temperature*  
*Transmitters 3144P, 248*

# IA INSTRUMENT ASSOCIATES

# REOTEMP®

## INSTRUMENTS



## PROCESS GAUGES

### 4.5" INDUSTRIAL PROCESS GAUGE

REOTEMP's Series PT4ST process gauge is designed to withstand atmospheres and media, pulsation and vibration; a very rugged gauge engineered for the process industries.

The solid front and blowout back provides a high degree of user safety.

- Solid Front / Blowout Back Safety Case
- All Stainless Steel Internal Parts
- Internal Overload and Underload Stops (std)
- Field Fillable Case
- Micro-Adjustable Pointer with Floating Zero
- ASME B40.100 Design
- NACE MR-0175 and MR-0103 Compliant



REOTEMP's Series PI45 process gauge is designed to withstand corrosive atmospheres and media, ideal for panel builders in the heavy-industrial markets. The hinge-front case allows for easy access to the gauge dial while still panel mounted.

- All Stainless Steel Internal Parts
- Internal Overload and Underload Stops
- Micro-Adjustable Pointer with Floating Zero
- Hinge-front Case for Easy Recalibration
- ASME B40.100 Design
- NACE MR-0175 and MR-0103 Compliant



## LOW PRESSURE GAUGES

### ALL STAINLESS STEEL LOW PRESSURE GAUGE

REOTEMP's Series PC25N2 brass gauges are designed for use in low pressure applications with dry gasses that are compatible with copper alloy. Examples include: exhaust systems and blowers.

- Sensitive Diaphragm / Capsule Mechanism
- Easy-Access Zero Rest Screw on Dial
- Economical Design for Non-Severe Service
- ASME B40.100 Design



### 4.5" LOW PRESSURE CAPSULE GAUGE

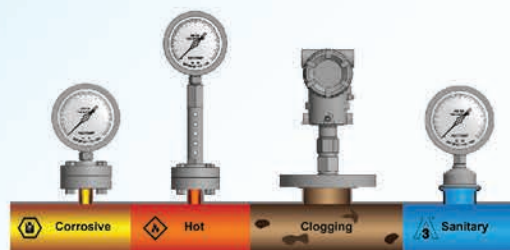
REOTEMP's Series PC45 low pressure capsule gauges offer accurate and reliable measurements of gaseous media. Offered with stainless steel internals, they are designed to withstand corrosive media and ensure a long-lasting instrument.



### Hi-Vis™

Bright, yellow dial, oversized numbers and a large red pointer

**Diaphragm Seals** are used in applications where the pressure sensor requires isolation from the process media. These applications may be corrosive, high temp, clogging, or require a sanitary fluid to remain captured in the piping or vessel. Rather than the process fluid interfacing with the pressure sensor, the pressure is exerted onto the flexible diaphragm and transmitted hydraulically to the instrument through the fill fluid. When properly mounted and filled a diaphragm seal assembly will have minimal effect on the instrument's performance.





## Gauges

**AMETEK**  
U.S. GAUGE



**NOSHOK**

**Ask about a gauge audit!**

- Process Gauges
- Liquid Fillable
- Diaphragm Seal
- Temperature Products



**ALL NEW!**  
**3D INSTRUMENTS**

3D Precision Gauges and Instrumentation are designed for your most rugged, demanding applications! 3D's direct drive bourdon tube means fewer moving parts for better accuracy and fewer problems.

**SAME DAY  
DELIVERY  
AVAILABLE!**

**IMPROVE SAFETY . . . REDUCE DOWNTIME . . . INCREASE PERFORMANCE**  
**10 YEAR WARRANTY ON SERIES 32!**

**Instrument Associates & Ametek U.S. Gauge Start Program  
for UpStream, Midstream & Downstream Process Markets**



**AMETEK**  
U.S. GAUGE

This service includes:

1. Safety & Reliability Training.
2. A plant audit to ensure proper ASME standards are met.
3. Recommendations regarding changes to provide longer life and increase safety, based on ASME standards and practices.
4. A storeroom audit to reduce incorrect gauges within the storeroom and provide proper replacements.

Further details available upon request. This service is FREE OF CHARGE.

***Instrument Associates is a factory trained US Gauge Authorized Distributor.***



**Prevent Freezing with Thermaxx Antifree Jackets**

**Drown out Noise with Thermaxx Removable Acoustic Jackets**

**Keep the Cold In with Thermaxx Cold Insulation Jackets**

**Keep the Heat In with Thermaxx Hot Jackets**

Removable, Reusable, Energy Efficient and Improved Appearance

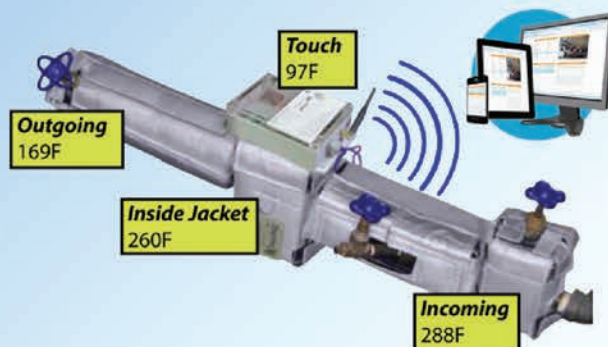
**BEFORE**



**AFTER**



## **THERMAXX SMART JACKETS**



With Thermaxx Smart Jackets, you can insulate steam components, document energy savings, remotely monitor component status and receive alerts to your phone or email!

Smart, Energy Efficient for Cost Savings and Convenience!



# SLATEPAGES

## Connecting Assets & Information

Track Assets, Maintenance Storage, Manage Inventory, Identify Asset Location



### How It Works:

iOS App  
Slate Page  
Web Portal



Using a Smart Phone,  
Click on QR Code  
to read information  
or access the internet  
to read the asset page







**Get Energy Efficient Savings With . . .**

**Velan Steam Traps**

**From Instrument Associates!**

UST Universal Bimetallic Thermostatic

**Recapture Lost Energy by Installing More Efficient Steam Equipment!** Steam loss can cause equipment damage and waste vast amounts of energy. Studies have shown that Velan steam traps operate more efficiently and have life 2 to 3 times longer than the competition.

**Steam Trap Trees Also Available!**

Steam tree arrangements have been proven to be more reliable, less likely to experience leakage, and are easier to maintain and operate due to their ease of accessibility.



Instrument Associates offers Steam Trap Surveys, determining if a trap is failing. A combination of ultrasonic, visual and thermal imagings are used a a full report with recommendations will be submitted. Additionally, we can supply heat and air loss surveys to identify problems and save you money.

See Survey ProGuide on Page 11.



Condensate Return Manifold



Steam Manifold



## Steam Trap Surveys, Heat Loss Surveys and Air Leak Surveys:

Energy efficient steam traps guarantee energy savings. Based on an average steam cost of \$10/1000# of steam, a company can lose anywhere between *\$350.00 to \$3,500.00 annually per steam trap!* Instrument Associates offers a comprehensive **Steam Trap Inspection** by utilizing the preferred method of using a digital ultrasonic probe for monitoring internal ultrasound in conjunction with an intrinsically safe infrared thermometer and thermal image camera.

### TRAP SURVEYS:

#### TESTING EQUIPMENT USED:

- UE Systems Ultraprobe 9000ATEX MHP Digital Ultrasonic Probe
- FLIR Model E4 Thermal Image Camera with MSX®
- Fluke Model 568EX Intrinsically Safe Infrared Thermometer

#### STEAM TRAP SURVEY EXPECTATIONS:

- Produce complete list of steam traps with locations
- Test for each steam trap conditions using temperature and ultrasonic

### HEAT LOSS SURVEYS:

#### TESTING EQUIPMENT USED:

- FLIR Model E4 Thermal Image Camera with MSX®
- Fluke Model 568EX Intrinsically Safe Infrared Thermometer

#### HEAT LOSS SURVEY EXPECTATIONS:

- Identify valves and process components that qualify for removeable insulation jackets
- Log component surface temperatures and list expected surface temperature after insulating
- Produce report listing energy savings for each component to qualify for utility energy rebates
- Produce report showing trap make, model, internal orifice size, location and steam pressures
- Produce report listing energy savings for each failed steam trap to qualify for energy rebates

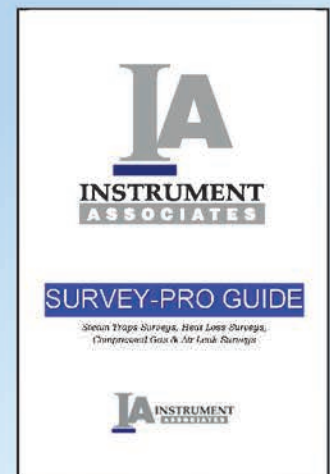
### AIR LEAK / COMPRESSED GAS LEAK SURVEYS:

#### TESTING EQUIPMENT USED:

- UE Systems Ultraprobe 9000ATEX MHP Digital Ultrasonic Probe

#### COMPRESSED GAS LEAK SURVEY EXPECTATIONS:

- All leaks logged and location identified
- Decibel readings of identified leaks
- Paper, two part, tag identifying all leak information
- Energy report listing energy losses for each leak



Instrument Associates  
named Krohne's  
**EXCLUSIVE**  
Manufacturers Rep!



**KROHNE**

▶ achieve more

**KROHNE** is the world's leading supplier  
of innovative solutions in industrial process  
instrumentation since 1921



**WATERFLUX 3070**

## Electromagnetic Flow Meters



**OPTIFLUX 4100**



**OPTIFLUX 6300**

Largest magmeter size selection in the industry, 1/10" to 120" • Rugged construction  
World's largest supplier of magmeters • 3 X 100% diagnostics

### Multivariable measurement

**Unique solutions:** 2-wire, hybrid design • Low noise electrodes, pulsating flow • Field calibration  
Removable electrodes • Partially filled pipes • Virtual reference

Widest selection of liners and electrode materials available • 100% wet calibration, to 0.15% accuracy  
Battery powered, remote water flow monitoring - no straight runs, low velocities



**OPTIMASS 1300**

## Coriolis Mass Flow Meters



**OPTIMASS 2000**



**OPTIMASS 7300**

Multiple process measurements available: mass flow, density, temperature, volume flow,  
% concentration by mass or volume, and solute flow  
Lowest pressure drop • Simple installation, no rigid supports required

Widest selection of tube sizes and choice of materials • Standard secondary containment  
Data redundancy • Advanced diagnostics, MODBUS • Temperature to 752 F

Liquid or gas measurement, slurry measurement • Custody Transfer solutions  
Measurement from 0 to 100% gas entrainment • Extended warranty to 36 months

**Entrained Gas  
Measurement!**



**OPTISONIC 3400**

## Ultrasonic Flow Meters



**ALTOSONIC V**



**ALTOSONIC V12**

Very low pressure loss, no flow obstructions • Bi-directional measurement  
High accuracy independent of viscosity, temperature and conductivity.  
Liquid or gas measurement - Cryogenic & high temperature versions

Custody transfer grade available • New clamp-on UFM available in 3 size ranges  
100% Wet Calibration • No maintenance requirements or recalibration  
Wide measuring range, excellent low flow sensitivity



**OPTISONIC 6400P**



## Temperature Measurement



**OPTITEMP  
TRA/TCA-TS53**

Industrial temperature assemblies that meet all requirements of the process industry that withstand high temps, extreme pressures and high flow velocities • Perfect for harsh environments or liquid applications

Resistance sensors and thermocouple assemblies • Temperature assemblies with various process connections • Standard and customized thermowells • Temperature transmitters for all applications



**OPTITEMP TT 51 C/R  
TRANSMITTER**

## Vortex Flow Meters



**OPTISWIRL 4200**

Integrated temperature and/or pressure measurement for true compensated flow  
Reliable referenced sensor construction provides immunity to process vibration  
Steam, gas or liquid applications • High turndown

Loop powered • Simple maintenance with no recalibration needed  
Available in flanged or wafer styles for sizes 1/2" through 12"  
Unique valve option for pressure sensor isolation



**OPTISWIRL 4200 Sandwich**

## Level Meters



**OPTIWAIVE  
7300C**



**OPTISOUND**



**OPTISWITCH**

Loop powered FMCW radar, ultrasonic and TDR technology for contact and non-contact continuous level measurement  
Best solution for process level applications - solids and liquids  
Wizard-driven setup • Remote to 45 feet

Advanced diagnostics, configuration, visualization and trending software • Liquids interface TDR, level switches available for liquids and solids • Mechanical level indicators



**OPTIFLEX  
1100**



**OPTIFLEX  
1300C**

**BM 26**



**OPTIWAIVE  
6300C**



**OPTIWAIVE 5200F**

## In-Line Viscosity Measurement



Simple and efficient – All Stainless Steel construction, no moving parts, no in-situ calibration, continuous measurement with analog or digital outputs  
Flexible – One design for a variety of fluids • Reliable 0.2% repeatability 0.1 cp resolution  
Sanitary and industrial applications

Innovative, patented technology based on mixing principles applied to pipes  
Continuous measurement of fluid viscosity • Touch screen interface  
Ideal for Newtonian and non-Newtonian application



## Instrument and Heat Trace Tubing Products

Fluid, Gas & Steam Handling

### Insulated and Non-Insulated Tubing • Steam and Electric Trace Bundles

Temptube® - Copper



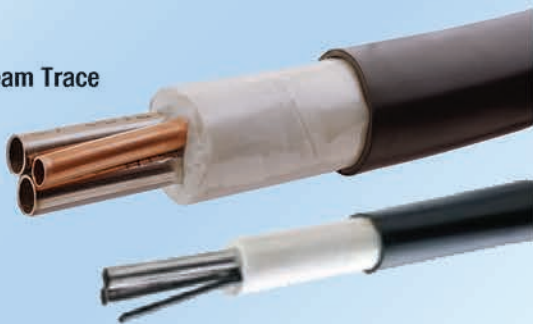
Temptube® - Stainless Steel



Light Steam Trace



Heavy Steam Trace



Analyzer Heated Bundles



#### Chemical Processing & Refineries

- Temptube® - Single Tube Insulated
- Steam Trace - LT Series Light Trace
- Steam Trace - HT Series Heavy Trace
- Electric Trace - Self-Regulating

#### Power Generation

- Intermittent High Temperature Steam Purge-Freeze Protection
- Continuous High Temperature Steam Purge-Freeze Protection

#### Process Control and Environmental Monitoring System

- Analyzer Bundles
- Probe Support
- Constant Watt - Low Temperature Maintenance
- Constant Watt - High Temperature Maintenance
- Mineral Insulated - High Temperature Maintenance

#### Industrial Plant - Robotics - Laboratory

- Multiple Plastic Tube Bundles
- Multitube® - Metal





## BARTEC

### ELECTRIC TRACE HEATING Self-Regulating Parallel Heating Tape

A temperature-dependent resistive element between two parallel copper conductors regulates and limits the power output of the heating tape according to the ambient temperature. If the ambient temperature rises, the power output of the heating tape is reduced. This self-regulating property prevents overheating even when the tapes are overlapped.



#### PSB System

The parallel design of the heating tape can be cut and installed to any required length. The self-regulating heating tape is available with different power outputs and protective jackets. The protective outer jacket of either fluoropolymer or polyolefin protects the copper braiding from corrosion and chemical impact. Two jackets under the protective braiding provide electrical insulation. The inner one of the two jackets is thermally fused to the heating element.



#### HSB System

The parallel design of the heating tape can be cut and installed to any required length. This feature considerably simplifies project planning and installation. The heating tape is cut and installed directly on the construction site for a custom fit. The heating system must be designed to ensure that the maximum operating temperature of +250° F will not be exceeded when it is energized.

### Electric Trace Heating Summary

- Protection Against Frost
- Temperature Maintenance
- Heating
- Self Regulating
- On Site Cut to Length
- Corrosion Proof

# INSTRUMENTATION PRODUCTS

## Fittings



### CPI™ Fittings

(Catalog 4230/4233)

- Three piece simple design to work on all instrumentation grade tubing
- Molybdenum Disulfide coated nuts to prevent galling and provide lubrication
- Single ferrule system treated with Suparcase™ technology to insure sealing



### A-LOK® Fittings

(Catalog 4230/4233)

- Industry standard design for all instrumentation grade tubing
- Silver coated threads to reduce galling
- Back ferrule treated with Suparcase™ to provide strong grip on the tube.



### MPI™ Fittings (Catalog 4234)

- Compression fitting for medium pressure applications up to 15,000 psi (1034 bar)
- Inverted body and nut design for added strength with thick-wall tubing
- Longer thread area for improved performance and resistance to vibration



### PARKER Autoclave Engineers®

- High pressure fittings
- Coned-and-threaded connection
- Tubing sizes are 1/4", 5/16", 3/8", 9/16" and 1"



### Phastite® (Catalog 4235-PH)

- Option for welded systems
- Simple assembly process provides high integrity connections, first time every time
- Installation time reduced to seconds



### Brass Push-to-Connect Fittings (Bulletin 3500-QRG)

- Prestolok® push-to-connect fittings are designed for use with nylon, polyethylene, polyurethane and soft metal tubing
- Ideal for pneumatic applications

## Ball/Plug Valves



### MB Series (Catalog 4121-MB)

- One piece compact barstock design
- Center off position for 3-way
- 2-way, inline, angle; 3-way, 4-way and 5-way



### B Series (Catalog 4121-BV)

- 2-way, 3-way diverting or spring loaded 3-way selector designs
- Wide temperature application range -65°F (18°C) to +450°F (232°C)
- Rated for up to 6000 psi (413.7 bar)



### HB Series (Catalog 4121-BV)

- Compact FNPT version for tight work areas
- Full operating pressure in any port



### PR Series (Catalog 4121-BV)

- Low operating torque
- Optional locking device, downstream vent and metal tee handles



### Pneumatic/Electric Actuators (Catalog 4121-BV)

- 60 Series pneumatic actuators provide 90° and 180° rotation in both double acting and spring return models



### HBV Series (Catalog 4190-HBV)

- Suitable for the most demanding applications in the oil, gas and process control industries
- Integral compression ends available, eliminating taper threads and thread sealants
- Two piece barstock design reduces body leakage paths

## Check Valves



### C Series (Catalog 4135-CV)

- Resilient, custom molded, seat design
- Back stopped poppet to minimize spring stress



### LC Series (Bulletin 4135-CV)

- For extreme temperature applications

## Filters



### F Series (Catalog 4135-CV)

- Replaceable sintered 316 stainless steel filter element



### FT Series (Bulletin 4135-CV)

- Filter elements are easily replaced without disconnecting the tube lines
- Fast Loop bypass option enables a continuous self cleaning flow

## Metering Valves



### N Series (Catalog 4170-MV)

- Panel or in-line mounting
- Angle or in-line patterns



### HR Series (Bulletin 4170-MV)

- Bubble tight shut-off capability
- High resolution metering valve with limited hysteresis

## Needle Valves



### V Series (Catalog 4110-NV)

- For positive leak tight shut-off and regulation of fluids
- Choice of three stem types



### SN6 Series (Catalog 4110-NV)

- Provides shut-off and coarse regulation of liquids and gases
- Choice of two stem types



### VQ Series (Catalog 4110-NV)

- In-line and angle patterns
- Panel mountable



### NP6 Series (Catalog 4110-NV)

- Choice of two non-rotating stem types
- Packing below power threads



### U Series (Catalog 4110-NV)

- Stem packing below the threads isolates the thread lubricant from the flow
- Severe service applications



### HNV Series (Catalog 4190-HV)

- Compact needle valves
- For applications up to 10,000 psi (690 bar)



## Solenoid Valves



### Solenoid (Catalog FCDFL0911)

- Electromechanical actuated valve to control the flow of liquids and gases

## Manifold Valves



### Monoflange (Catalog 4190-FP)

- Compact double block and bleed valves, featuring needle valves
- Reducing installation cost while improving safety through a reduction in leak paths



### Pro-Bloc® (Catalog 4190-FP)

- Compact double block and bleed valves, featuring needle or ball valve options
- Reducing installation cost while improving safety through a reduction in leak paths



### PGI Manifolds

- 2-Valve, 3-Valve & 5-Valve manifolds feature the patented PTFE Pressure Core® Stem Seal.
- Available with bonnet handle lock-out to prevent unauthorized cycling.

## Diaphragm Valves



### NV17 (Bulletin 25000222)

- General purpose, high cycle, compact valve
- For regulator outlet valve, gas control panels and analyzer sampling system applications



### FS190 (Bulletin 25000034)

- Excess flow shut-off valve
- Manual or pneumatic actuation
- Non-attitude sensitive
- Six pressure/flow limit settings

## Pressure Regulators



### IR4000 Series

- (Bulletins 25000226, 25000223, 25000233)
- Internally threadless design
- Convolute Hastelloy C-22® diaphragm
- Available in 316L SST, Brass, Hastelloy C-22®, Monel®



### IR6000 Series

- (Bulletins 25000141, 25000224, 25000227)
- Dual stage regulator
- Internally threadless design
- Convolute Hastelloy C-22® diaphragm
- Available in 316L SST, Brass, Hastelloy C-22®, Monel®

## Back Pressure Regulators



### ABP1 (Bulletin 25000021)

- Reduce contamination and accurately control back pressure
- Internally threadless design
- Convolute Hastelloy C-22® diaphragm

## Vaporizing Regulators



### AVR3 (Bulletin 25000138)

- Steam heat design
- Internally threadless design
- Available in 316L SST, Monel®



### AVR4 (Bulletin 25000137)

- Electrical heat design
- Field serviceable heat transfer element
- CSA, Cenelec, and ATEX certified
- Internally threadless design

## Flow Controllers



### Gas Mass Flow Controllers (Catalog FM-1041 & FM 441)

- Models available with flow ranges of 0-5 sccm to 0-1000 slpm N2
- Responds to a step change in setpoint in less than one second
- Accuracy options down to 1% of rate



### Variable Area Purgometer (Catalog FM-1058)

- Variable area flowmeters include 65mm and 150mm scale length tube assemblies
- Available in either forged body or side-plate construction



### 500/600 Series II Mas Flow Meters & Controllers

- High accuracy & repeatability
- Operating pressures up to 6000 PSIA
- Storage of max 8 calibration curves



### Acrylic Flowmeters (Bulletin FM-1160)

- Brass, PVC or stainless steel process connections
- Metering tube of machined cast acrylic



### Glass Tube Flowmeters (Bulletin FM-1163)

- Available in 35 flow ranges in 6 tube sizes



### Metal Tube Variable Area Flowmeters

- (Bulletins FM-1158, FM-1161, FM-1162)
- Multiple process connection options including NPT and ANSI flanges
- Optional inductive slot sensor alarms and 4-20 mA transmitter

## Change Over Systems



Maintains continuous gas delivery from two separate sources; allows maximum cylinder gas usage from one source before automatically switching to the second.

## PFA / PTFE Products



### Parflare PFA Tube Fittings

- Parflare fittings provide low dead volume, which decreases the possibility of particle entrapment and bacterial growth.

### Pargrip PFA Tube Fittings

- Perfect for applications where ease of assembly is a requirement. Grooved tubing is not required.

### Parbond PFA Fusible Pipe Fittings

- Parbond fittings welded design eliminates threaded connections and entrapment areas and creates a leak free connection.

### PFA Pipe Fittings

- Available in a variety of configurations, all with standard NPT threads.

## Temperature Controls



### Texas Thermowells (Catalog 4240)

- Flanged thermowells are available in partial penetration and full penetration welds.
- Each thermowell is stamped to provide full material traceability



**Thermocouples & Thermocouple Assemblies**  
RTDs - Resistance Temperature Detectors



**Transmitters**

## Sample Cylinders



### Sample Cylinders (Catalog 4110-NV)

- 1,800 psig (124 barg) DOT rated sample cylinders
- Stainless steel construction



# FILTRATION PRODUCTS

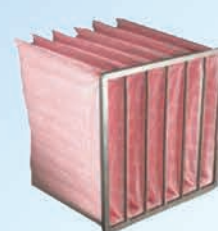
*Filters, Elements, Dryers and More -- For Liquids, Compressed Air and Gas Filtration*



We can cross-reference almost any name brand filter!

## Air Filtration

HVAC & HEPA panel filters



## Instrumentation and Gas Sampling Filters



Finite Instrumentation and gas sampling filters offer . . .

- Coalescing, particulate and absorption elements
- Disposable in-line filters with optional hose barb connections
- Connections to 1" NPT
- Flows from <<1 SCFM to 170 SCFM
- Pressures to 5000 PSIG



## Air Preparation Units



Filters, Regulators and Lubricators  
FRLS



Coalescing Filters



Stainless Steel FRLS



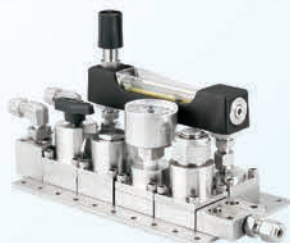
Filter, Regulator or "Piggyback"



# INTEGRATED SYSTEMS SOLUTIONS

***Analytical System -- Your TOTAL Process Solution!***

## ***Sample Conditioning/Preparation***



### **IntraFlow™**

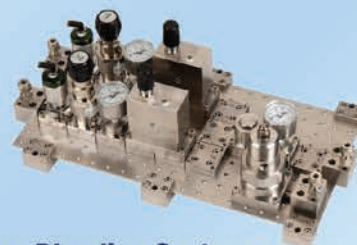
Maintain all flowpaths, regardless of direction, on a single plane within the system.



### **Pilot Pro**

Simplifies data transmission between the analyzer, sample conditioning system and personnel.

## ***Calibration Gas Delivery***



### **Gas Blending System**

Allows users to blend or dilute up to five component gases to produce customized gas mixtures for precise calibration or validation standards.

## ***Sample Conditioning (Stream Switching)***



### **Gen II R-Max™**

Integrate stream switching and filtering into one unique and compact assembly.

## ***Sample Disposal***



### **Vent Master™**

Sample disposal that complies with environmental regulations and provides a stable analyzer reference pressure.

## ***Carrier Gas Delivery***



### **Change Over System**

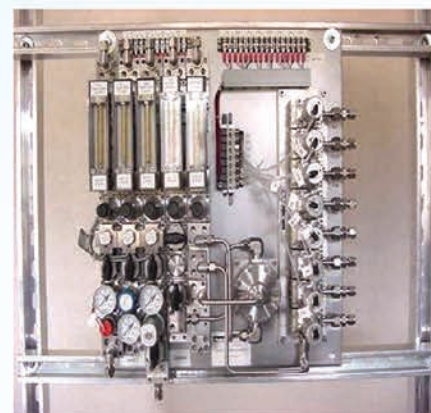
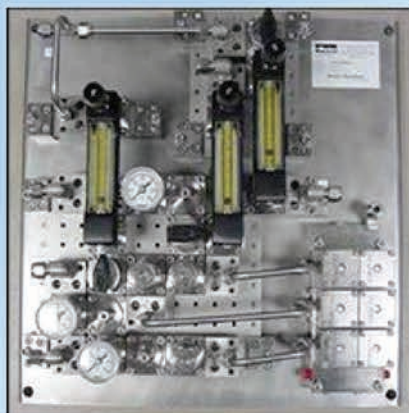
Maintain continuous gas delivery from two separate sources by automatic switching.



### **Gas Generator**

Produce critical high purity gas generation for analytical processes.

***Process analysis requires efficient control of temperature, pressure and flow at all levels of the analytical process!***





# INTEGRATED SYSTEMS SOLUTIONS

## ***Analyzer System Packages***

### ***COMPREHENSIVE DESIGN AND FABRICATION***

#### **OUR STRENGTHS**

Chemical Dosing  
Integrated Controls  
Design Systems  
Integration  
Application  
Knowledge  
Quality Engineering  
Customer Service  
Field Service

#### **WE DELIVER**

Custom Systems  
Standard Systems  
Metering Pumps  
Controls  
Instrumentation  
Accessories

#### **MARKETS SERVED**

Municipal  
Industrial  
Commercial

#### **APPLICATIONS**

Cooling  
Boiler / Layup  
Process  
Potable / Waste Water

### ***Protect your instrumentation from corrosion and environmental conditions.***

Instrument Associates offers you a complete solution for field instrumentation, including everything from development to design to on-site delivery.

We can provide you . . .

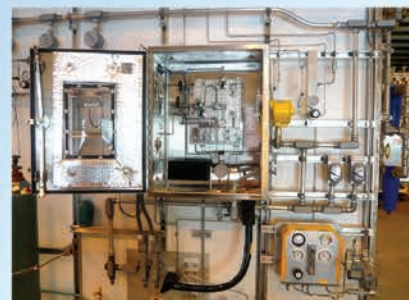
- Planning/Scope development
- Engineering
- Full instrumentation integration
- Pre-Assembly and testing
- Guaranteed on-time delivery
- All necessary project specifications and instructions.

Our enclosures will . . .

- Save you money on hardware
- Reduce your installation cost and time
- Reduce your maintenance costs on field instrumentation
- Reduce engineering time
- Increase safety
- Ensure program compatability

You can be confident that the program we develop with you will exceed all of your essential application requirements.

**Let Instrument Associates be your  
fabricator and project coordinator.**





# INTEGRATED SYSTEMS SOLUTIONS

## DESIGN . . . FABRICATION . . . INSTALLATION

*Give us your toughest applications or even your simplest and we will help you custom design a complete package tailored to your specifications.*

- Mass Flow Systems
- Sample Conditioning Systems
- Flow Transmitters
- Stream Switching
- Valve Systems
- Change Over Systems
- Filtration Systems
- Water / Steam Sampling
- Process Sampling
- Cylinder Sampling
- Enclosure / Shelter Systems
- Accessories
- Kitting
- Assembly
- Double Block and Bleed Valves

*And much more . . . just ask!!*



INSTRUMENT BOX FABRICATION



CHEMICAL FEED SYSTEMS



AIR DISTRIBUTION PANELS



CONTROL PANELS



PRO-BLOC DOUBLE BLOCK & BLEED MANIFOLDS



AUTOCLAVE - HIGH PRESSURE PANELS



SAMPLE CONDITIONING SYSTEMS

## NEW PRODUCT



ATT2100 Smart Temperature Transmitters

**ATT2200**  
Sensor inputs  
for use with  
temperature sensors



Smart Transmitters for **Nuclear Service** are also available!



APT3100 Differential Pressure Transmitter



**APT3100L**  
Smart Pressure Transmitters with Diaphragm Seal

## TRANSMITTERS

The global leader in "smart" pressure, differential pressure, and temperature transmitters.



Autrol's microprocessor based transmitters uses HART communications. Perfect for the Chemical, Petrochemical, Oil & Gas, Power, Pharmaceutical, Food & Beverage and Wastewater industries.



# HYDROGEN DETECTION

## HY-OPTIMA™ Product Line (Process)



## HY-ALERTA™ Product Line (Safety)



HY-OPTIMA™ 2700



HY-OPTIMA™ 1700

H2scan's HY-OPTIMA™ line includes a range of real-time, in-line portable hydrogen monitors for process optimization in industrial applications.



HY-OPTIMA™ 1700AS

Hydrogen detection and measurement is critical in many industries, including:

Petrochemical  
Chemical  
Nuclear  
Semiconductor  
Industrial Hydrogen  
Fuel Cells

Analyzer enclosures are available to protect your instrumentation from harsh environments.



HY-ALERTA™ 500



HY-ALERTA™ 2600

H2scan's HY-ALERTA™ line includes a range of state-of-the-art, portable hydrogen leak detectors and fixed area monitors designed to ensure safety within an enclosed or open area where there's a potential for a hydrogen leaks.

# GAS DETECTION SOLUTIONS



Instrument Associates offers a wide variety of personal gas detection solutions for the safety and security of your employees!



**PS200**  
Portable Gas Detectors can detect up to 4 gases at one time.



**Auto Bump & Calibration Station** for testing, charging and calibration of PS200.



**PS500**  
Multi-Gas Monitor for high performance detection of VOC's



**GAS CLIP SGC**  
24-month disposable model.  
Single Gas Clip is 100% tested and designed to provide worker safety in the harshest conditions.

**NEW**



The new **MGC Pump** offers a 5 day continuous run on a single charge and 6 month calibration cycle.



**MGC**  
tests for the presence of combustible gases, H<sub>2</sub>S, CO, and O<sub>2</sub> with a 2-month continuous run battery life.



**Fixed gas detection solutions from Detcon**



**SGC PLUS**  
SGC PLUS uses "hibernate" mode to save battery life!

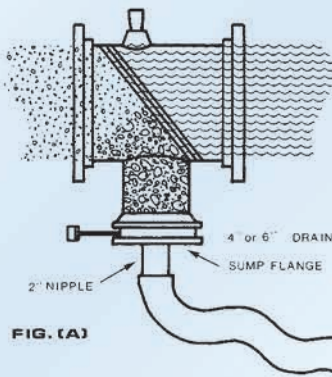


**MGC Dock**  
MGC & SGC Docking Stations are designed to test up to 4 units simultaneously and can bump, calibrate or deactivate detectors.



# CLIP™

## (cleaned-in-place) pump suction strainers



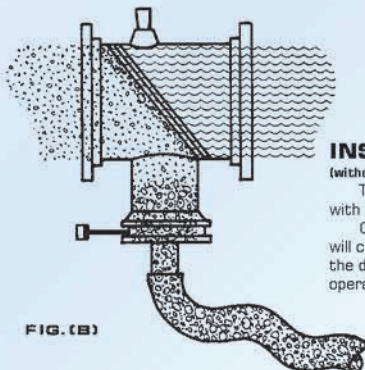
**NORMAL STRAINING** FIG. A

Liquid flow occurs across inclined, low pressure drop screen, which is of patented high-strength design. This patented feature offers the user the highest resistant strength to screen pullout in the strainer field.

All foreign matter is stopped by the screen face, and dropped into the sump chamber by the patented action of the vibrating screen.

When the large sump chamber becomes full, the particulate will begin to cover a portion of the screen and increase the differential pressure across the screen.

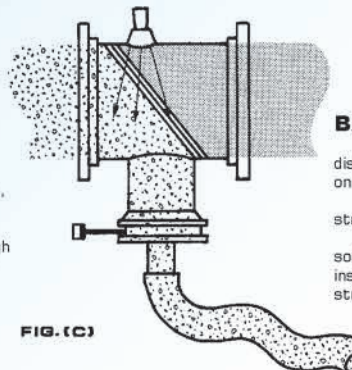
When the differential pressure exceeds a design value it can actuate an alarm. This will indicate "cleaning is necessary" (Fig. B).



**INSTANT CLEANING** FIG. B  
(without Pump Shutdown)

This can usually be accomplished in a few seconds, with minimal loss to system efficiency.

Opening of the drain valve (automatic or manual) will cause the fluidized solid matter to flow out through the drain. This is achieved without interrupting pump operation.



**BACKWASH CLEANING** FIG. C

A pressure lance is provided in order to dislodge strained particles which are impinging on the screen face.

This is done on a dewatered line wherever standard system outages occur.

A large size drain sump flange is provided so that the screen face can be reached for inspection and cleaning without removing strainer from the line.

\* Instant in place cleaning eliminates dangerous pump cavitation.

\* Backwash nozzle screwed in from outside - cannot go downstream and damage pump.

\* Patented resistance welded strong SS screen is 100 times stronger than other designs against screen pullout.

\* Saves at least 72 man hours per pump on startup.

## Services and Solutions

### **Available 24 / 7 / 365:**

Our Management and Sales Team are accessible and available for your emergencies after office hours, on the weekends and even holidays. We will guarantee a phone call back to you in a matter of minutes to help provide you with a solution. If you are in need of products, we will do our absolute best to provide you with that product and deliver to your job site that day. If we are unable to do so, we assure you that obtaining and delivering those products will remain the highest priority on the following business day, contingent on product availability.

### **Same Day Delivery:**

Instrument Associates can make same day deliveries of in-stock items in our own IA van. We strive to do our best to accommodate all of our customers and their needs.

### **Stock Conversion:**

Our Outside Sales Account Managers will review your current Swagelok fittings inventory and present back to you with the Parker interchangeable equivalent A-LOK® or CPI™ fittings, with a certified guarantee from Parker. Thousands of customers have successfully made the switch from Swagelok utilizing individual components to complete fitting replacements from Parker. All of our product lines can easily transition into your inventory with cross-referencing equivalent functionality or higher-level functionality.

### **Vendor Managed Inventory:**

Our Outside Sales Managers will assess your current inventory, evaluate your monthly usage and develop a concise plan to keep your levels at their best productive levels. We have extensive experience with plant cribs and cages as well as project inventory trailers, so that jobs and projects keep running smoothly with no down time or surprises. For over 30 years, Instrument Associates has reviewed and managed inventories in the refineries, chemical companies, steel mills and industrial plants.

### **1-800-C-Parker – 24/7/365 Service:**

As a Parker Distributor, Instrument Associates recommends this Parker service by calling the above number to correctly identify products for the right application. Talk to a live, knowledgeable Parker associate for all information on products and get your problems solved immediately, any time!



## Lunch-&-Learns

Instrument Associates offers a number of courses and training seminars for the manufacturers that we represent. Our professionally trained salesmen and one or more of our manufacturers reps will come to your facility and provide a presentation, hands-on training and literature and of course ... lunch! Some of our more popular lunch-&-learns are:

- **Parker Instrumentation Tube Line Fabrication Course**

We will provide the basic principles of tube line fabricating with a focus on the proper selection of tubing, bending, assembly and installation of instrumentation tubing and fittings. This course can also include lunch/and or breakfast.

- **Krohne Lunch-&-Learns**

Krohne is the premier leader of process measurement solutions. With products that can measure flow, level, pressure and temperature, as well as in-line viscosity measurement and analytic instruments, our product specialists can demonstrate the benefit of these meters in all industrial applications.

- **Product Demonstrations**

Instrument Associates has on hand many of the products that we can bring to your facility so that the functionality, design and process can be shown to you first hand. We will always do our best to accommodate your requirements.



## Mobile Product Demonstrations At Your Facilities



**REOTEMP®**  
INSTRUMENTS

Review complete product offerings from Reotemp Instruments,  
with one of our Instrument Associates Outside Sales Managers and the  
Midwest Regional Sales Manager of Reotemp in the parking lot at your facility.

### LEARN ABOUT . . .

- Pressure Gauges
- Seals
- Thermometers
- Thermowell's RTDS and Thermocouple Assemblies
- Pressure Transmitter Seal Repair Programs
- All Welded Seal Assemblies

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To Schedule An Appointment





# 2018 PARKER TECH TOUR Summer Schedule

Instrument Associates is pleased to announce the return of **The Parker-Hannifin's Trade Show On Wheels, the Tech Tour** showcasing Parker's innovative motion and control products, systems and services for hands-on, real-world experience right outside your plant door. Please call if you are interested in having the truck at your plant by calling 708-597-9880 for more details.





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Call For A Quote Today!

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