SPECIFIED SOLUTIONS

Catalog & Company Offerings

- Airflow Measurement
- HVAC Water, Steam, & Gas Measurement
- Aluminum Damper Solutions
- Indoor Air Quality Management
- Technical Services

(412) 346-1200

www.SS-HVAC.com

Pages (4-7)

Ebtron is an innovative leader in the design, development, and manufacturer of advanced thermal dispersion airflow measurement devices and subsystems for use in HVAC systems in buildings, data centers, medical facilities, laboratories, and other related industries where critical airflow measurement is required.

Pages (8-11)

Badger Meter is an innovator in flow measurement, control, and communications solutions, serving commercial and industrial HVAC customers worldwide. The company's products measure water and fuels, and are known for accuracy, long-lasting durability, and for providing valuable and timely measurement data.

Pages (12– 13)

Sage Metering is an innovative manufacturer of high-performance natural gas flow meters for gas flow measurement. The company has brought to market the first thermal mass flow meter to utilize graphical displays, a hybrid digitally driven circuit, and the industry's first in-situ calibration verification system.

Pages (14-15)

Critical Environments such as laboratories, hospital spaces, pharmaceutical process areas, and biocontainment facilities demand precision airflow control. Without it the results are higher energy costs and unsafe conditions for staff and/or patients. Phoenix Controls airflow control solutions allow you to use lower levels of conditioned outside air — saving you money while keeping people safe and preserving the integrity of your work.

Pages (16-17)

TAMCO is an innovative manufacturer of high-end, superior-quality dampers and air control products, serving commercial, industrial, and institutional markets. TAMCO entered the ventilation industry in 1955, and in 1980 began to engineer and produce an innovative line of aluminum dampers. Great attention has been devoted to design, in order to develop products which are durable, maintenance-free, energy efficient, and unparalleled in performance. TAMCO continues to lead the charge, bringing creative solutions to the air control market.

Page (18)

AIRCUITY® Accurate ventilation for healthy, sustainable buildings. | AQaaS™

Aircuity is the smart airside efficiency company providing building owners with sustained energy savings through its intelligent measurement solutions. By addressing the inherent deficiencies in conventional approaches to energy efficient building ventilation, Aircuity's smart solutions deliver significant energy savings for a wide range of commercial, institutional, and lab building applications without sacrificing occupant comfort, productivity, or safety.

Page (19)

SPECIFIED SOLUTIONS TECHNICAL SERVICES

Specified Solutions' Technical Services branch is designed to help our customers with the startup & commissioning of projects, troubleshooting, and product information needs. Our certified technicians will help answer any questions regarding product installation and product application, all with the intent to ensure 100% startup success.

Scan the QR code to get directed to the Specified Solutions website for the most up-to-date information on our manufacturers and the products that we offer.

Products

GTx116e-PC/H (P+)

Applications: Outside Air, Supply Air, Return Air, and Exhaust Air

Guidelines: Measures up to 100 square feet with 3-5% accuracy

- Analog and network airflow and temperature outputs
- Integrated dewpoint, enthalpy, and humidity output option
- Transmitter with dual lined backlit display

GTx108e-F/An, GTx108e-F/SI & DI

Applications: Supply or Return Fan Array, Single or Double Width Fans

Guidelines: Measures up to 8 fan inlets with 3-10% accuracy

- Analog and network airflow and temperature outputs
- Individual fan flow, alarm, or temperature outputs
- Transmitter with dual lined backlit display

Bluetooth® Technology Interface

Applications: For easy access to information and a direct line to customer service

Guidelines: All Gold Series airflow stations come equipped with easy to use Bluetooth interface. EB-Link available in app stores.

EF-x1000 (ELF)

Applications: High performance VAV terminal box measurement and room pressurization

Guidelines: Measures airflow with 3% accuracy

- Analog and network airflow and temperature outputs
- Integral transmitter
- Cost effective single probe

EF-x2000

Applications: Small duct airflow tracking, outside air monitoring, and room pressure monitoring

Guidelines: Measures airflow with 3% accuracy

- Analog and network, airflow, temperature, and pressure outputs
- Remote transmitter with LCD display
- Bi-Directional airflow measurement that can detect ΔP as low as 0.0002″ H_20

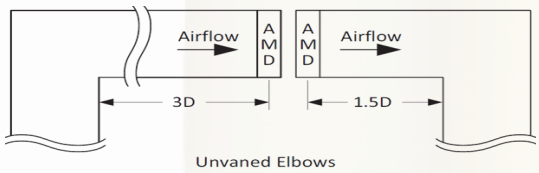
AIR-IQ

Applications: Outside air intakes, floor to floor airflow measurement for building pressurization returns

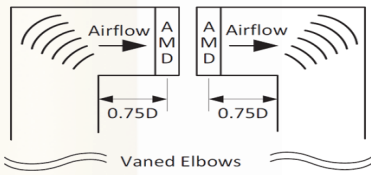
Guidelines: Measures up to 25 square foot damper area with 5% installed accuracy

- Analog and network airflow and temperature outputs
- Transmitter with dual lined backlit display

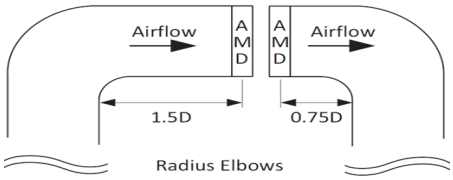
Placement Guidelines



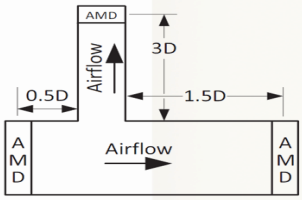
Unvaned Elbows



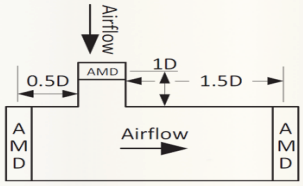
Vaned Elbows



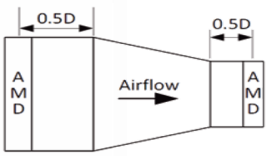
Radius Elbows



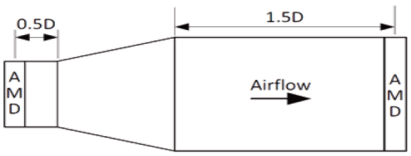
Supply 'T' Fitting



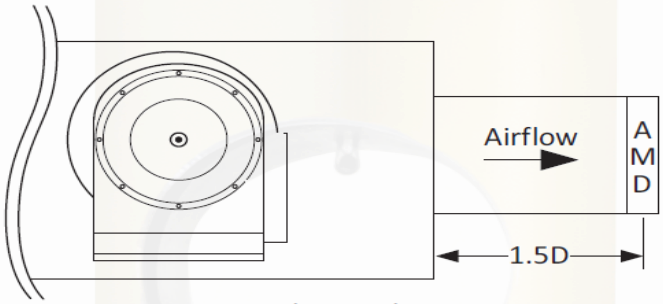
Return 'T' Fitting



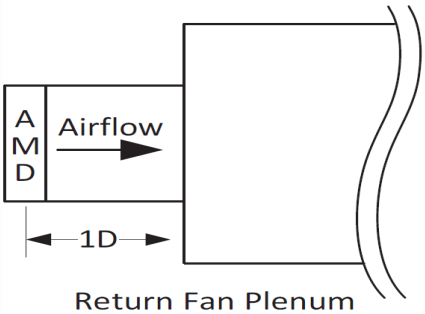
Reducing Transition



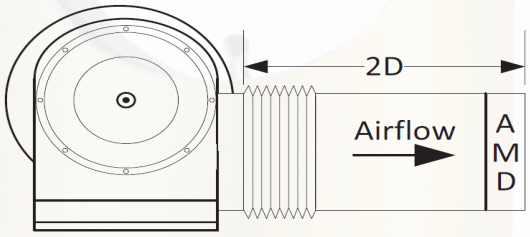
Expanding Transition



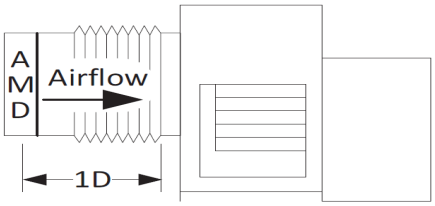
Supply Fan Plenum



Return Fan Plenum



Ducted Centrifugal and
Vane Axial Fan Discharge



Ducted Centrifugal and
Vane Axial Fan Inlets

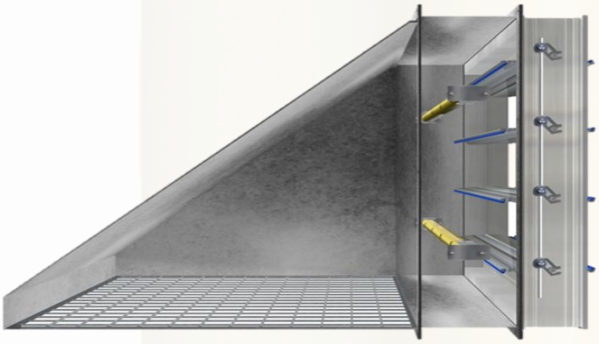
D = Simple Equivalent Diameter $\left(\frac{\text{Width + Height}}{2}\right)$

INSERTION MOUNT

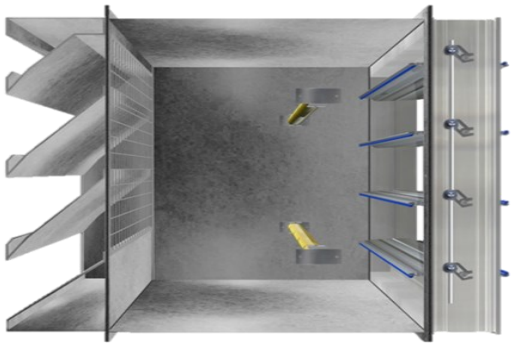
STANDOFF MOUNT

INTERNAL MOUNT

Placement Ideas

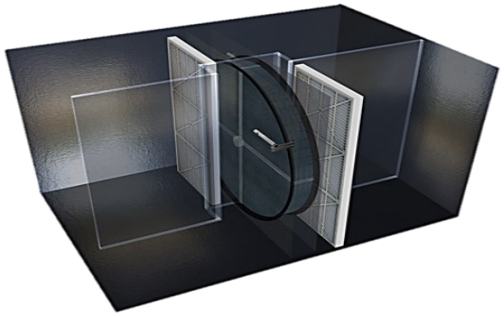


OA Hood Intake



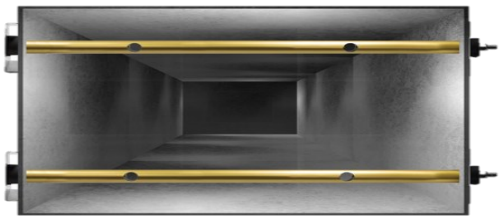
OA Louver Intake

OA Hood Intake (Small)



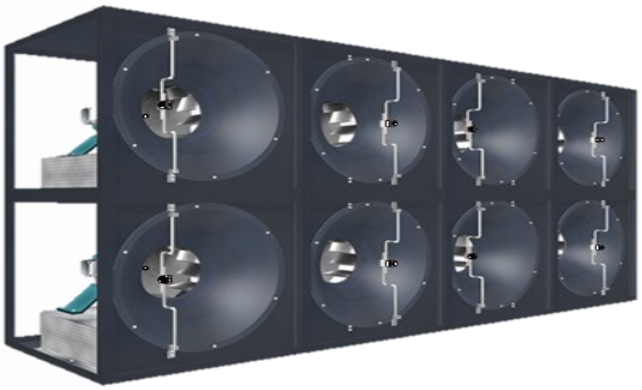
Heat Wheel Application

VAV Measurement



In-Duct Application

Fan-IQ Damper



Fan Wall Measurement

Products

ModMAG M2000 Meter

Applications: Chilled water, hot water, condenser water, domestic water, and condensate
Guidelines: Measures waterflow delivering accuracies of 1% with **ZERO** straight run, and 0.2% when straight run guidelines are achieved

- Analog or RS485 Modbus flow outputs
- Integral or remote mounted transmitter
- Available in sizes 0.25…78 in.

TFX-5000 Transit Time Meter

Applications: Heating/cooling energy flow meter used with RTD for temperature measurement and flow measurement
Guidelines: Measures waterflow with 0.5% accuracy of reading

- Analog and network flow outputs
- Remote mounted transmitter with a variety of cable lengths
- Available in sizes 0.5…96 in.

SDI Series Meters

Applications: Insertion style flow sensors designed for general clean liquid applications
Guidelines: Measures flow with 1% accuracy of reading

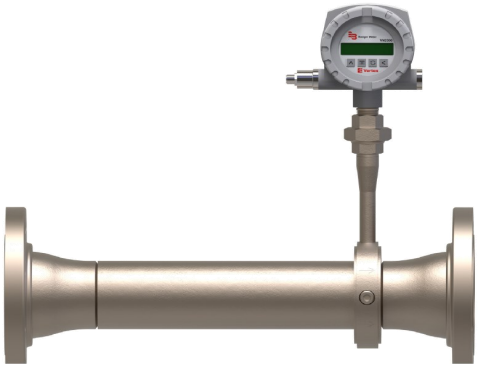
- Analog or scaled pulse outputs with display option
- Hot tap installation
- 3 stem lengths available for pipe sizes 1.5…36 in.

VN2000 Hot Tap Vortex Meter

Applications: Can be used in steam, gas, or liquid lines for hot tap applications
Guidelines: Measures flow with 1% accuracy of reading

- Analog or BACnet outputs
- Reduced maintenance (No moving parts, no recalibration, and stainless steel construction
- 3 stem lengths available for pipe sizes 2…48 in.

VN2000 Flanged Vortex Meter



Applications: Can be used in steam, gas, or liquid lines for flanged applications
Guidelines: Measures flow with 1% accuracy of reading

- Analog or BACnet outputs
- Reduced maintenance (No moving parts, no recalibration, and stainless steel construction
- Available for pipe sizes 0.75…3 in.

Series 380 BTU System

Applications: Domestic water
Guidelines: Measures flow with 2% accuracy of reading

- Scaled pulse and RS485 Modbus outputs
- Reduced maintenance
- 3 lengths available for pipe sizes 0.75…2 in.

FC-5000 Flow/BTU Monitor

Applications: Monitor hydronic energy usage, flow rate, and totals
Guidelines: Monitors energy usage

- Analog outputs
- Panel or wall mount

Badger Meter

Industrial Oval Gear Meters

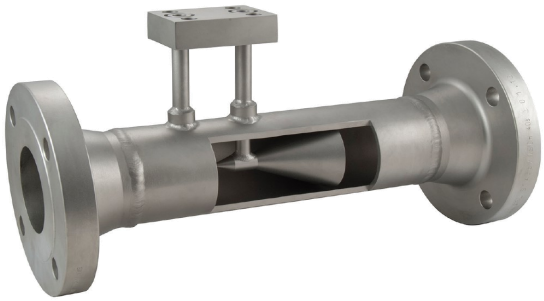
Applications: Rugged environments where conventional meters are not acceptable
Guidelines: Measures flow with 0.5-2.5% of reading accuracy

- Variety of instrumentation available for control system interfacing
- Flexibility of installation options
- Available in sizes 0.25…3 in.

Gemini Differential Pressure Flow Meter

Applications: Rugged environments where conventional meters are not acceptable
Guidelines: Measures flow with 0.5% of reading accuracy

- Additional transmitter needed for control system interfacing
- No moving parts
- Available in sizes 0.5…24 in.

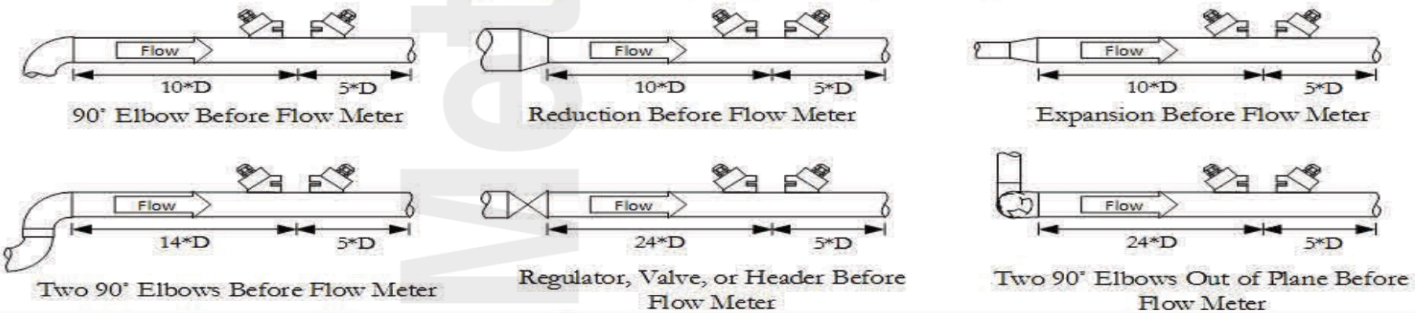


Recordall Turbo Series Meters

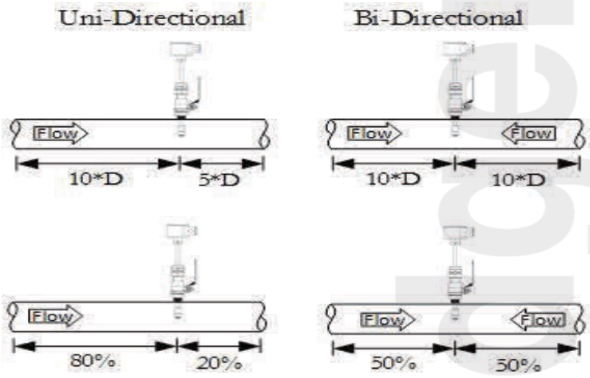
Applications: Hotels, apartment buildings, irrigation centers and manufacturing plants
Guidelines: Measures flow with 1.5% of typical operating range

- ANSI and AWWA C701 compliant
- Inlet and outlet straightening vanes to minimize liquid swirl
- Available in sizes 1.5…12 in.

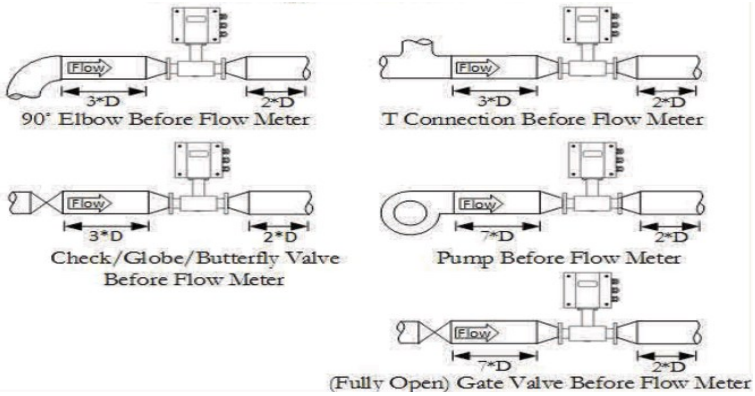
TFX-5000



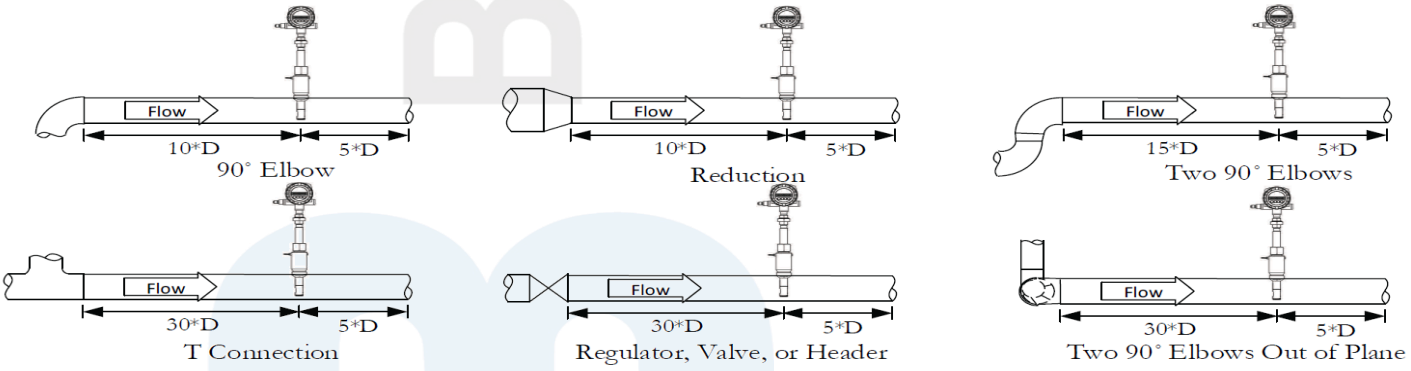
SDI Series

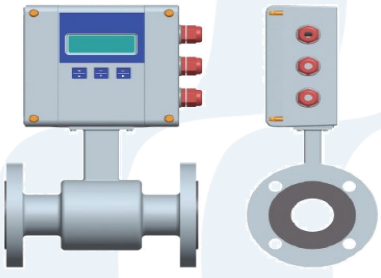


ModMAG M2000

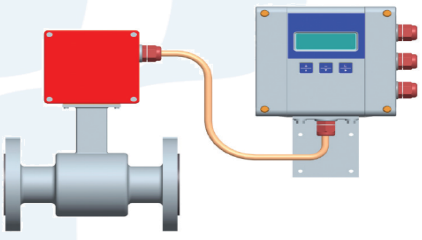


VN2000

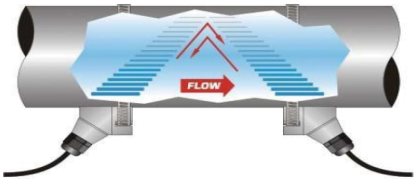




Meter mount



Remote mount



Products

SIP Hot Tap Insertion Natural Gas Meter

Applications: Rugged environments where conventional meters are not acceptable

Guidelines: Measures flow with 1% of reading accuracy

- Direct Mass Flow—No need for separate temperature or pressure transmitters
- Proportional analog and pulsed output with easy to read graphical display (Optional RS485 Modbus)
- Available in sizes 0.25…8 in.

SIP Remote Mounted Natural Gas Meter

Applications: Rugged environments where conventional meters are not acceptable

Guidelines: Measures flow with 1% of reading accuracy

- Direct Mass Flow—No need for separate temperature or pressure transmitters
- Proportional analog and pulsed output with easy to read graphical display (Optional RS485 Modbus)
- Available in sizes 0.25…8 in.

SIP Inline Flanged/NPT Natural Gas Meter

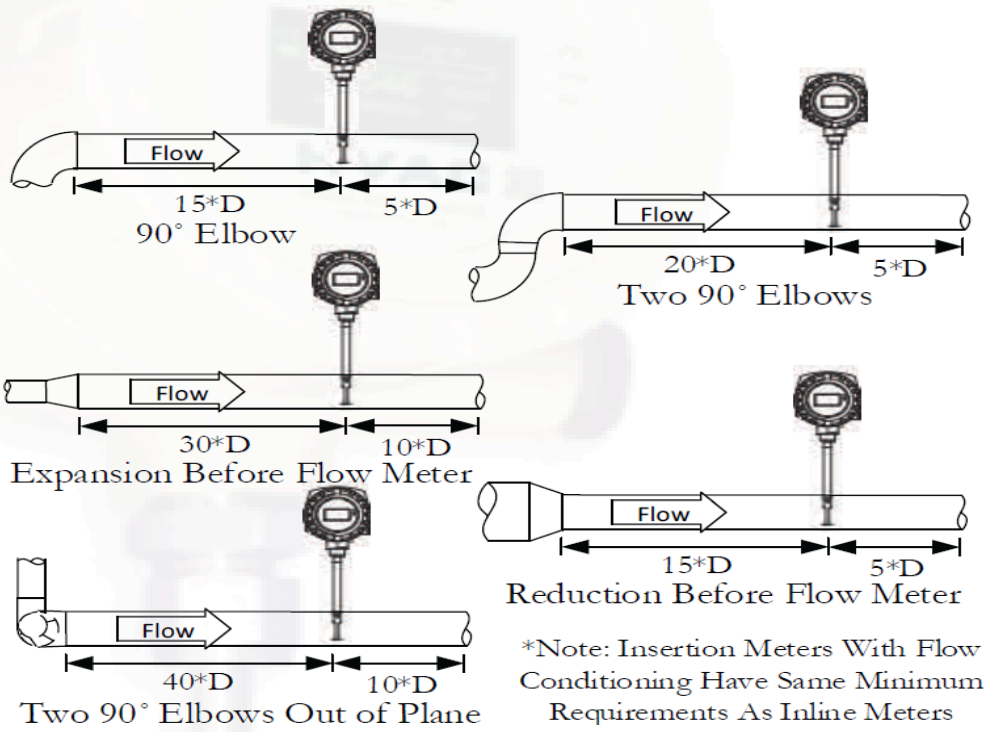
Applications: Rugged environments where conventional meters are not acceptable

Guidelines: Measures flow with 1% of reading accuracy with either 150# flange or NPT

- Direct Mass Flow—No need for separate temperature or pressure transmitters
- Proportional analog and pulsed output with easy to read graphical display (Optional RS485 Modbus)
- Available in sizes 0.25…8 in.

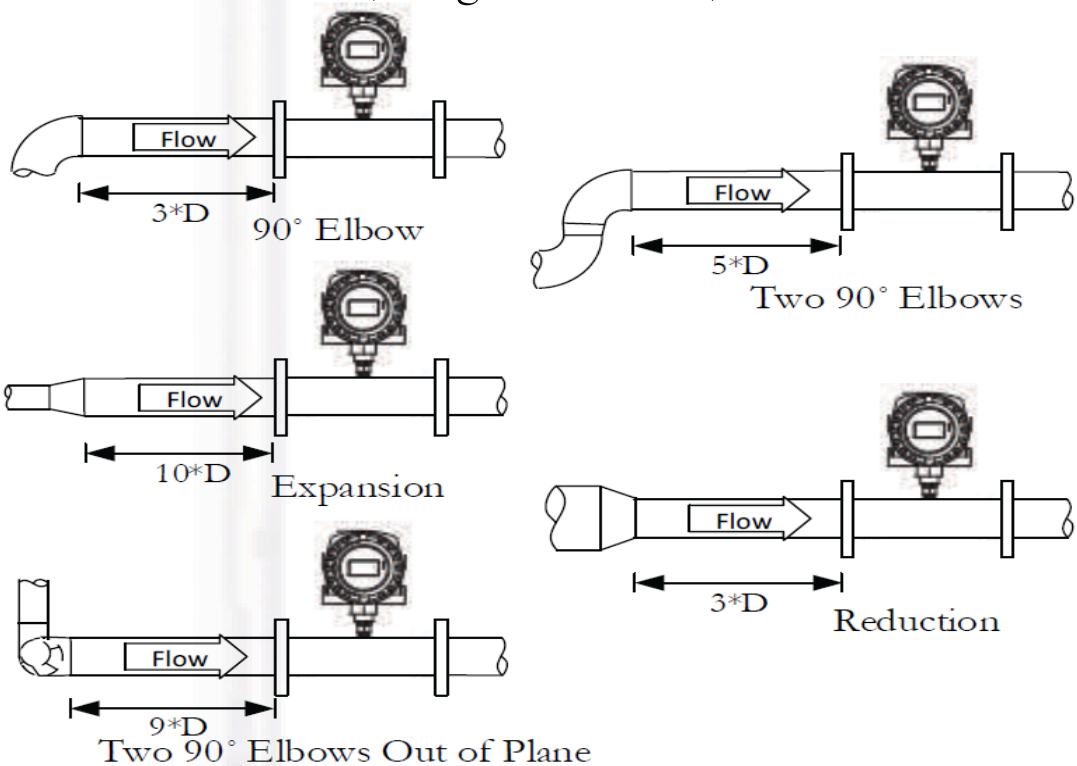
Placement Guidelines

Insertion



*Note: Insertion Meters With Flow Conditioning Have Same Minimum Requirements As Inline Meters

Inline
(Flanged and NPT)

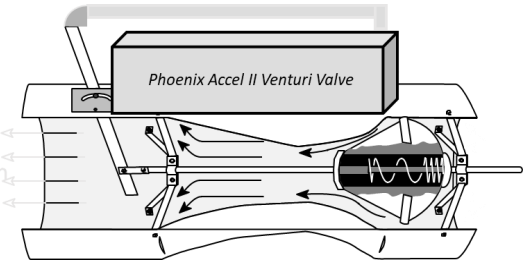


Products

Phoenix Controls Venturi Valve

Applications: Precision air controlled spaces: higher education laboratories, healthcare facilities (pharmacies, operating rooms, and patient rooms), and BSL labs
Guidelines: Meters airflow with 5% accuracy

- Airflow Range: 35-10,000 CFM
- Single, dual, triple, and quad body valve options
- Chemical resistant coatings
- Available in 8…10…12…14" valves
- No ongoing maintenance
- Duct pressure independence
- Medium pressure valve (0.6-3.0"WC)
- Low pressure valve (0.3-3.0"WC)



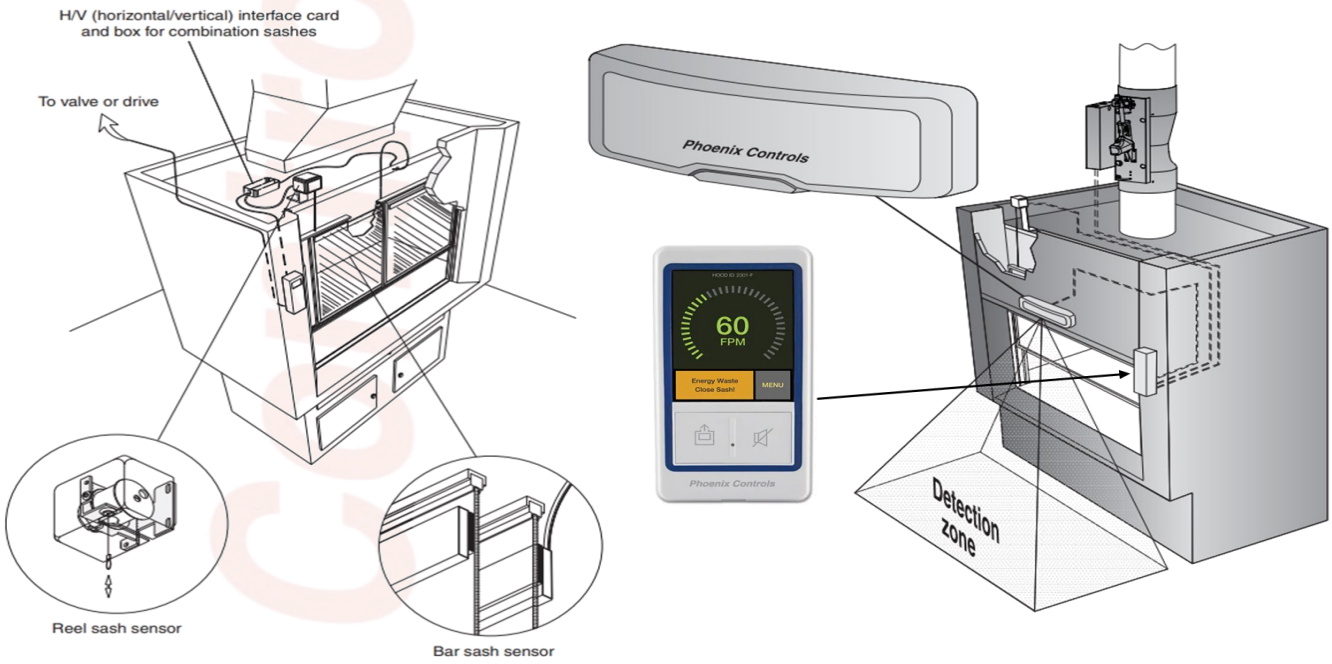
The Celeris® brand of products are designed specifically for fume-hood intensive, high-level containment and pharmaceutical manufacturing facilities and protects researchers and safeguards the integrity of a research environment in critical control environments while offering optimum energy efficiency.

The Traccel® brand of products are designed for life science facilities and can accommodate changes in airflow demands, reduce future HVAC renovation costs, maintain the environmental integrity of a research facility, and help earn the points to achieve an organization's LEED goals.

The Theris® brand of products are designed specifically for hospitals and critical care facilities and can help facility owners reduce maintenance costs, reduce the spread of airborne pathogens and conserve more energy.

The Phoenix Controls Smart Actuator enables the BAS or a third-party controller to command the valve using a scaled 2-10 volt or 4-20 mA signal. The valve then moves to the required flow set point and generates an analog output signal to the BAS giving a precise reading of the new airflow value.

Phoenix Fume Hood Controls



Phoenix Controls offers a comprehensive portfolio of products for fume hood control that includes sash sensors, Zone Presence Sensor®, also known as ZPS sensor, fume hood displays, and fume hood valves and controllers. Our wide variety of fume hood sensors work with the most accurate air flow valves in the industry to ensure face velocity at the hood opening is maintained at a safe level.

Phoenix Controls Integrator: PCI8000

Phoenix Controls PCI8000 is a multi-purpose solution seamlessly integrating critical airflow control devices to building automation networks while providing a platform for custom control logic. The PCI8000 offers a graphical programming environment and configurable inputs and outputs to extend control functions provided by on-site valve controllers. Using optional remote I/O modules, it can also be used to provide local control for hard-wired third party devices - typically room-level lighting control, advanced temperature control sequences, or integrating air quality sensors to the building's front-end visualization system.

Products

Series 1500
Ultra-Low Leakage Control Damper

Applications: OA dampers, air mixing zones, and in-duct air control
Guidelines: Leakage Class 1A at 1 in. w.g. *(0.25 kPa)* static pressure differential.

- Aluminum construction
- Silicone seals
- Maintenance-free bearing and linkage components

Series 9000 BF
Thermally Broken Frame Control Damper

Applications: Coil freeze-up is a concern, AHU intake and exhaust, or where low leakage maintenance-free dampers are required
Guidelines: Leakage Class 1A at 1 in. w.g. *(0.25 kPa)* static pressure differential.

- Aluminum thermally broken frames and blades (non-thermally broken frame option available)
- Maintenance-free bearing and linkage components

Series 7600 WT
Adjustable Weighted Backdraft Damper

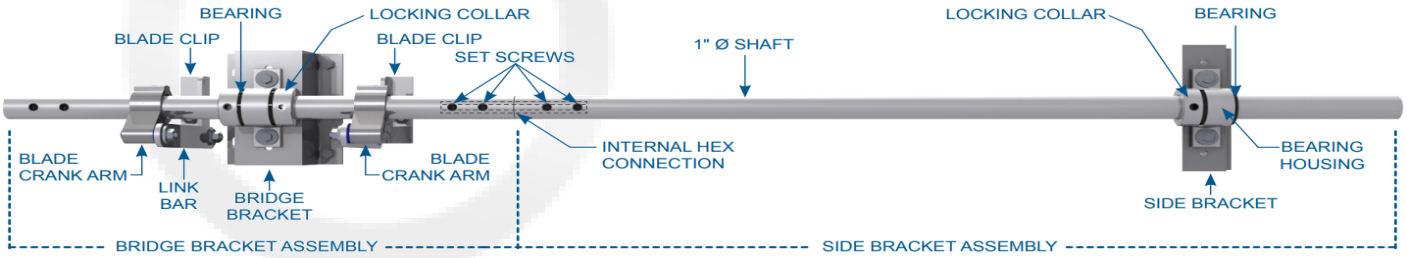
Applications: Used for adjustable blade resistance or delayed opening
Guidelines: Backdraft dampers available in flanged to duct, in -duct, and extended rear flange mounts (horizontal and vertical mounting available)

- Aluminum construction
- Silicone seals
- Maintenance-free bearing and linkage components

Heavy-Duty Jackshafts

Applications: Ideal for multiple section control dampers (either horizontal or vertical applications are acceptable)

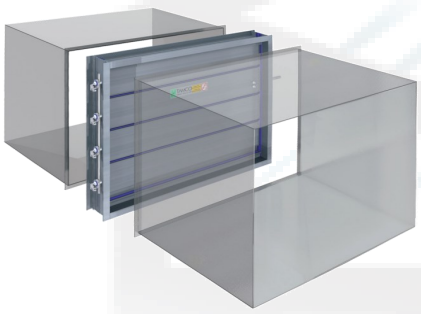
- 1" diameter anodized aluminum rod
- All non-aluminum parts are zinc-plated steel
- Maintenance-free bearing and linkage components



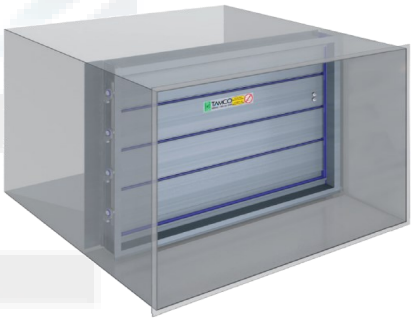
Factory Mounted Actuators

Applications: To provide a bundled actuator and damper solution for contractors and owners

- Electric and pneumatic actuators available
- Internally or externally mounted
- Can be mounted directly to rod, blade, or jackshaft



Flanged to Duct



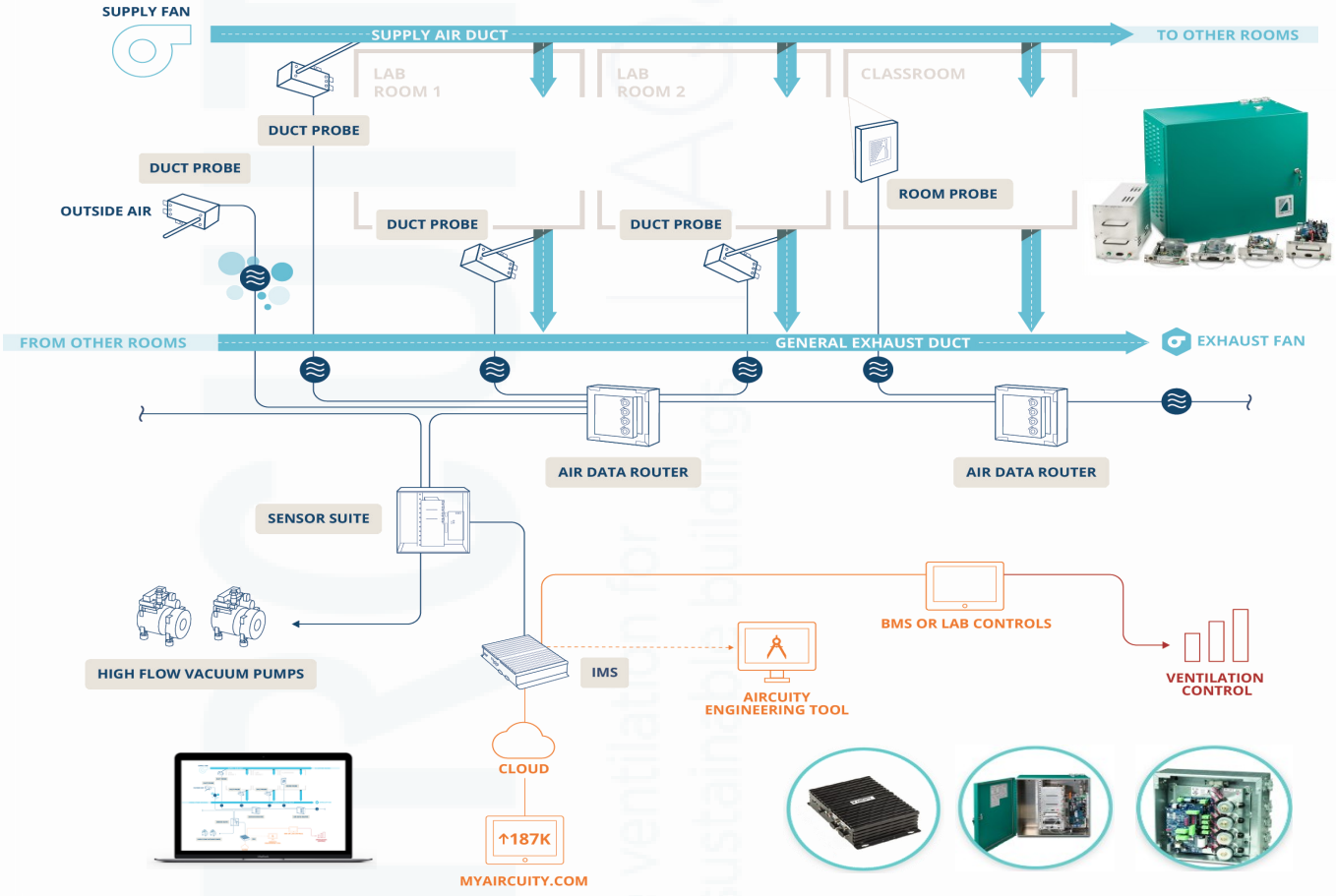
In-Duct

Extended Rear Flange

Products

Aircuity: Indoor Air Quality Management

Applications: Laboratories, critical spaces, offices, and DCVs. (Return on investment typically seen in 2-4 years)



The Information Management System (IMS) provides network management of the Sensor Suites, communication to the web-based user interface **(myaircuity.com)** and integration to a facility's Building Management System.

The Sensor Suite (SST) is built on a scalable architecture to accept a variety of sensors (CO, CO2, DPT, PAR, TVOC, etc…). It affords distributed, multiplexed based sensing of the monitored areas and, as a shared sensor platform, minimizes calibration and maintenance costs.

Air Data Routers (ADR) convey air samples to the Sensor Suite from up to four distinct test areas via dedicated Architectural Wall Probes, Room Probes and/or Duct Probes, and the associated cables. The router multiplexes air samples from the probes via onboard solenoid valves.

Service Offerings

EBTRON	• **Product Field Support** (Site Survey, Startup, & Troubleshooting) • **Product Training**
Badger Meter	• **Product Field Support** (Site Survey, Startup, & Troubleshooting) • **Product Training** • **On-site Flow Verification Services** • **Meter Rental Services**
SAGE METERING, INC.	• **Product Field Support** (Site Survey, Startup, & Troubleshooting) • **Product Training**
Phoenix Controls	• **Phoenix Design Engineering & Application Assistance** • **Startup & Commissioning** • **Turn-key Upgrade & Retrofit Opportunities** • **Product & System Training** • **System Health Checks**
TAMCO	• **We provide effective turn-key solutions for defective control damper systems**
AIRCUITY Accurate ventilation for healthy, sustainable buildings. | AQaaS™	• **Startup & Commissioning** • **Aircuity Assurance Program** • **Product & System Training**

For more information about Specified Solutions' products, Technical Services department, our turn-key projects, or our system continuation programs, please call us at: (412) 346-1200

SPECIFIED SOLUTIONS
TECHNICAL SERVICES

SPECIFIED SOLUTIONS, INC.

P.O. Box 587
Sewickley, PA 15143

Phone: (412) 346-1200
Website: www.ss-hvac.com