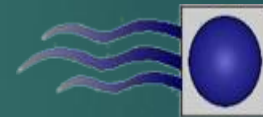


4 Benefits of Clamp-On Flow Meters



Badger Meter



TECHNICAL AIR SYSTEMS, INC.
A Comfortable Choice

BADGER METER

TECHNICAL AIR SYSTEMS, INC.

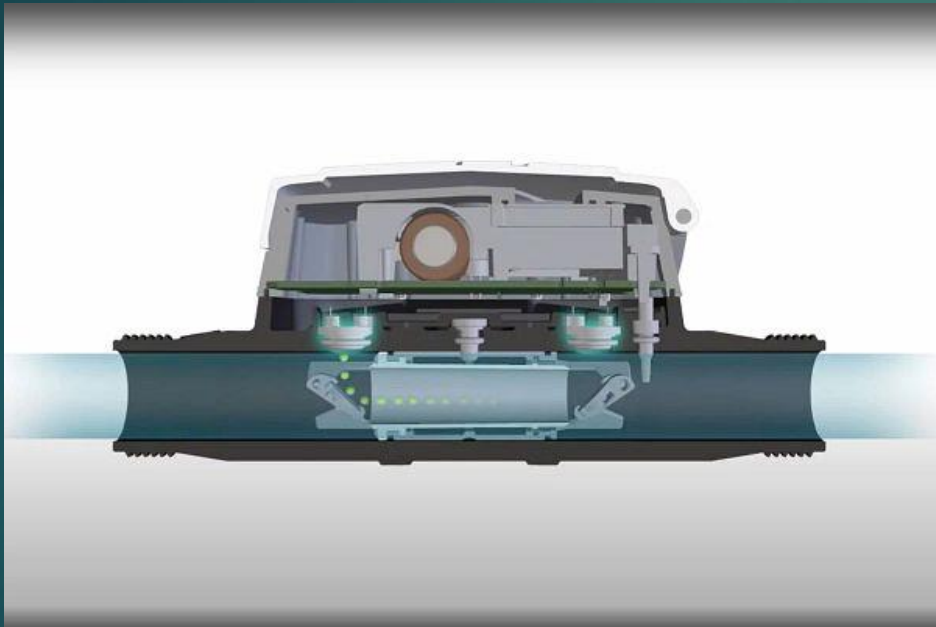
<http://www.technicalair.com/badger-meter>

Introduction

- ▶ In flow instrumentation and measurement, there are three main types of meters:
 - ▶ **Inline**
 - ▶ **Insertion**
 - ▶ **Clamp-on**
 - ▶ Clamp-on flow meters use ultrasonic (either transit time or Doppler) technology to measure the velocity of a fluid flowing through a pipe
 - ▶ Building design and construction and HVAC professionals—including engineers, installers, technicians and facilities managers—prefer clamp-on meters in many settings because they provide consistently accurate measurements for precise water management and have a low cost of ownership in common applications



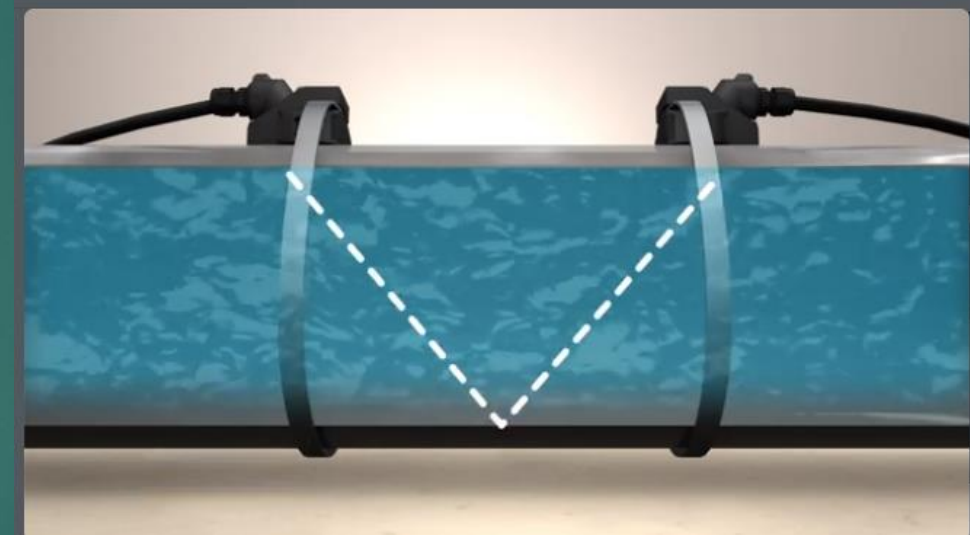
Benefit 1: Streamline Installation



- ▶ Clamp-on meters simply clamp on to a pipe's exterior
 - ▶ No need to interrupt service, cut into a pipe or shut down operations to install them
- ▶ Ideal selection for both new and retrofit systems
 - ▶ Completely eliminate downtime
 - ▶ Completely eliminates pressure drops
 - ▶ Never comes in contact with fluid
 - ▶ Can be installed and set up within an hour

Benefit 2: Accurate Measurements

- ▶ Covers a wide range of flow rates
- ▶ Offers impressive measurement with accuracy up to $\pm 0.5\%$.
 - ▶ [Dynasonics® Ultrasonic](#)
- ▶ Many HVAC professionals choose clamp-on meters as a long-term solution
 - ▶ Offer better accuracies than some traditional meters do, even when measuring liquids with small amounts of particulates, or with changes in temperature, viscosity, density or pressure



Benefit 3: Reduce Maintenance



- ▶ Simple design of clamp-on transducers and an electronic converter
- ▶ No moving parts and never touch the internal fluid
 - ▶ Greatly reduces, if not eliminates, the need for maintenance
- ▶ Don't experience wear and tear over time or require frequent calibration
 - ▶ Greatly reduces cost of ownership compared to some in-line meters

Benefit 4: Portable Design

- ▶ Portable design makes clamp-on meters an asset in verifying flow or troubleshooting another meter without disrupting liquid flow or cutting into a pipe
- ▶ Easy to install and configure
- ▶ Fit a variety of pipe sizes
 - ▶ Measure the accuracy of most any aging or malfunctioning meter with a single portable clamp-on meter
- ▶ Facility managers use them to help identify when another meter may be due for preventive maintenance
 - ▶ Oftentimes, portable ultrasonic clamp-on meters are the key to identifying issues and reducing water loss



Choosing the Right Flow Meter for Your Application

- ▶ The building design and construction and HVAC industries have many applications that require flow meters, from measuring flow in cooling tower blowdown and make-up water applications to monitoring water usage for tenant cost allocation/sub-metering. If you're in the market for a flow meter, work with a flow instrumentation expert who can address your application's unique requirements.
- ▶ Ultrasonic clamp-on meters are a leading option for many applications, but there may be another flow instrumentation technology that's better suited to maintain a safe, efficient and profitable application. Review the different types available and then contact a flow instrumentation pro if you'd like to discuss your custom solution.
- ▶ Learn more about Badger Meter's solutions for HVAC applications and how the right metering technology can make all the difference in improving your operations at <http://www.technicalair.com/badger-meter>
- ▶ Find additional Building Performance & Controls articles, along with our entire catalogue of Air Handling/Air Distribution and Commercial Kitchens articles, at the Engineering Corner: <http://www.technicalair.com/ec>