



Measuring Flow With Zero Straight Run Requirements in Building Design, HVAC & Plumbing

*The Insider Blog
Badger Meter*



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Flow Measurement Tool Goals



- Quantify water usage
 - Optimize system performance
 - Control costs
 - Meet regulatory compliance
 - Maintain safety
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- **Meters often require a specified amount of straight run upstream/ downstream to deliver these accuracies**
 - Five to 10 or more pipe diameters of straight pipe before and after the meter.
 - Meeting these requirements can result in expensive modifications and extensive downtime for installation.



In applications where adequate straight run is not available or achievable, controls contractors and other key stakeholders are opting for the [ModMAG® M2000 Electromagnetic flow meter](#) to reduce installation time and cost with zero straight run required.

Impressive Performance in Applications With Tight Spaces



Badger M2000 Meter Differentiators:



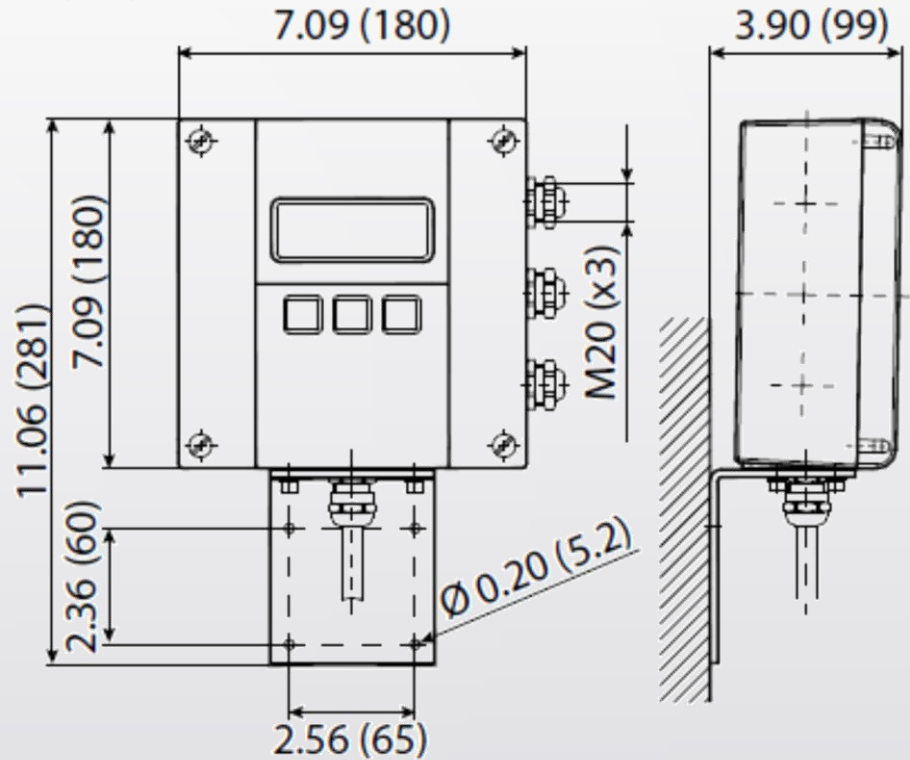
- Delivers accuracies of $\pm 1\%$ with zero straight run requirements
 - or $\pm 0.2\%$ with appropriate straight run
- Repeatability of $\pm 0.1\%$
- No pressure drops
- Horizontal to vertical up
- Full pipe measurement
- Display rotation of 90 degrees
- No moving parts or strainer requirements
- Minimizes meter vault size
- Suitable for potable water, well water, reclaimed water, wastewater and water-based solutions
- Deployment without significant downtime or modifications
- **Validated by the Netherlands Measurement Institute (NMI) to OIML/MID for sizes 2 -12 inches**
 - Suitable solution in tight applications with no space or budget for modifications

Selecting a High-Performance Meter for Tight Applications



- Take into account:
 - Flow rates
 - Line sizes
 - Meter location
 - Materials of construction
 - Connectivity
 - Certifications
 - Complexly designed applications with limited space
 - Rules out meters that require a certain number of straight pipe lengths upstream/downstream
 - Close proximity to pumps, valves and other devices
 - IP68 requirements for permanent immersion or underwater installation of metering equipment

M2000 Transmitter Dimensions
In. (mm)



M2000-1

Common applications:



- Water consumption
- Chiller/boiler make-up and blowdown
- Sub-metering or cost allocation
- Water or wastewater treatment
- EPA water use/discharge reporting

Contact the Experts

- Learn more about Badger Meter's entire flow meter line by going to <http://www.technicalair.com/badger-meter>
- Contact the Technical Air Systems' Sales Engineering Team at 973-285-0333 or by email at solutions@technicalair.com
- Check out more Building Performance & Controls articles along with Air Handling & Air Distribution and Commercial Kitchen articles at [Technical Air Systems' Engineering Corner!](#)



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