

OCTAVE™ ULTRASONIC METER

2", 3", 4", 6", 8"



THE SCIENCE OF PRECISE MEASUREMENT™

Octave brings the latest in ultrasonic metering technology to Commercial/Industrial (C&I) water meters and puts precise measurement where the real flows exist. This unique design delivers precise measurement without any moving parts and a generous open area to pass small entrained solids for maximum life and enduring accuracy. With sensitivity beginning at flow rates as low as 1/16 GPM, Octave excels

at capturing even minimal use to maximize revenue on your commercial metered points. The Octave outperforms a compound by offering no moving parts and no changeover. Excellent alternative to mechanical compound, single-jet, floating ball, and turbine meters, Octave excels at maintaining sustained accuracy for the life of the meter while providing smart AMR capabilities.

QUICK FACTS:

- * No moving parts. Minimal flow intrusion. Enduring accuracy.
- * Flow sensitivity starting at 1/16 GPM
- * No required strainer
- * Double beam ultrasonic measurement sensors for high accuracy and reliable operation
- * FM Approval on all sizes
- * Industry standard communication protocol for integration with most third-party AMR/AMI systems
- * Active leak, theft, backflow, meter damage/tamper, rate of flow, and battery life indication
- * Detailed LCD display features immediate reporting and visual indicators for 8 critical conditions
- * Open collector pulse output, encoder or externally powered loop 4-20 mA
- * Lithium battery provides guaranteed 10 year life expectancy
- * Ruggedized NEMA 6P/IP-68+ construction; Fully submersible design
- * Designed to meet standards for both North American and international C&I water meters
- * Design provides full compliance with ANSI/NSF 372 (AB 1953 or NSF61G)

**Lifetime Accuracy | Exceptional Low Flow Performance | No Moving Parts - Low Maintenance
AMR/AMI Capable | No Strainer - Minimal Piping Considerations**



ULTRASONIC MEASUREMENT

Unlike compound, single-jet, floating ball, and turbine meters that operate with mechanical measuring elements placed within the water flow, Octave — an ultrasonic meter — boasts no moving parts to ensure lifetime accuracy. Octave uses double beam ultrasonic measurement sensors to measure water flowing through the meter's throat without physically disrupting the flow.

The sensors emit ultrasonic wave bursts and measure their transit time through the water between two diagonal cross-sections of the flow tube in the venturi throat section. By calculating the difference in transit time between the waves moving with the flow and the waves moving against the flow, Octave provides a precise measurement of flow rate and therefore the volume of water transferred through the meter.

THE SOUND OF SCIENCE™

UNIQUE "SING AROUND" TECHNOLOGY

Signals are further processed using a proprietary processing method called "sing-around". In essence, instead of attempting to detect and process all instantaneous time of flight loops, using the "sing-around" method, the send / reflected time signals are sampled for "N" loops back & forth and that time is then measured. The average flow rate is then computed as that total time divided by N and thus significantly improving the measurement precision.

LCD DISPLAY



m³ GAL FT³ AF

VOLUME UNITS

L/s m³/h GPM

FLOW RATE UNITS



LEAK DETECTOR



BATTERY LEVEL ICON



FLOW DIRECTION ICON



ALARM/MEASUREMENT ERROR ICON



OUTPUT MODE



3G/GSM ACTIVE COMMUNICATION

3G TECHNOLOGY COMPATIBLE

Perfect for use with our 3G Mobile™ AMR and FixedLinx™ AMI technologies when connected to our 3G XTR™ endpoint. Alternatively, realize easy remote access to consumption data, alarms and alerts delivered daily via email, FTP or web-based access when connected to a 3G Cellular™ unit.

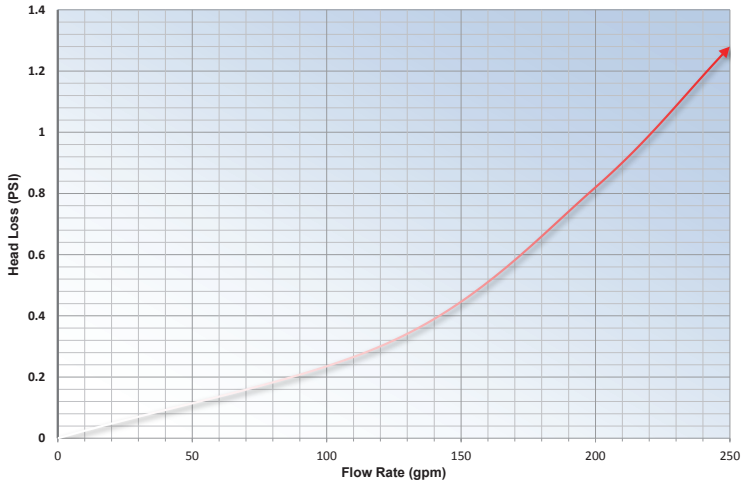
- * 3G DataLogs™ - Scalable 4,000 point Data Logging Capabilities down to the minute (*customer defined resolution*) for meter right-sizing or to address high billing complaints.
- * Revenue Impact Alerts™ - Vigilant 24/7 protection against Leak, Tamper, Theft (*backflow*), and Zero Consumption.
- * 3G SynchReads™ - Dual real-time clock for precise unaccounted for water analytics and system balancing.
- * 3G LeakZones™ - Ready to Deploy District Metering Areas or Zones (DMA/DMZ) Advanced Infrastructure Leak Management Programs.

ACCURACY PERFORMANCE DATA

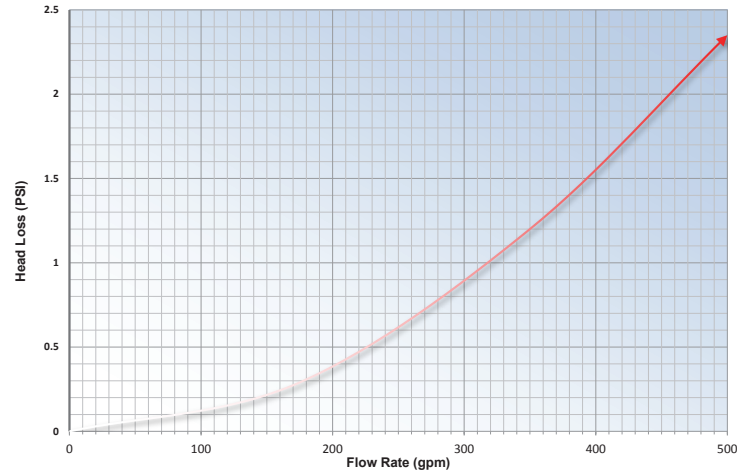
Octave Nominal Size Inch (mm)	Octave Starting Flow GPM (Lt/s)	Extended Octave Low Flow @ ± 5% GPM (Lt/s)	Normal Flow Range @ +/- 1.5% GPM (Lt/s)	Continuous Safe Max Flow GPM (Lt/s)	Short Term Deluge Flow GPM (Lt/s)	Pressure Loss at FM flows
2" (50mm)	1/16 (.004)	1/4 (.016)	1/2 - 250 (.032 - 15.77)	200 (12.62)	250 (15.77)	0.82 PSI @ 200 GPM
3" (80 mm)	1/16 (.004)	1/2 (.032)	1 - 500 (.06 - 31.54)	350 (22.08)	500 (31.55)	1.15 PSI @ 350 GPM
4" (100 mm)	1/16 (.004)	3/4 (.047)	1 1/2 - 1,000 (.09 - 63.09)	700 (44.16)	1000 (63.09)	2.57 PSI @ 700 GPM
6" (150 mm)	3/4 (.047)	2 (.13)	3 - 2,000 (.19 - 126.18)	1600 (100.94)	2000 (126.18)	0.69 PSI @ 1,600 GPM
8" (200 mm)	3/4 (.047)	4 (.25)	5 - 3,500 (.32 - 220.82)	2800 (176.65)	3500 (220.82)	1.87 PSI @ 2,800 GPM

HEAD LOSS CURVES

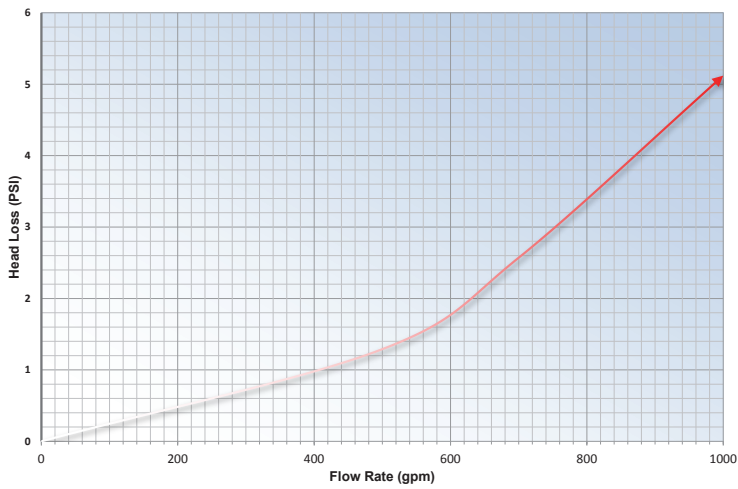
2" OCTAVE
Head Loss Performance Chart



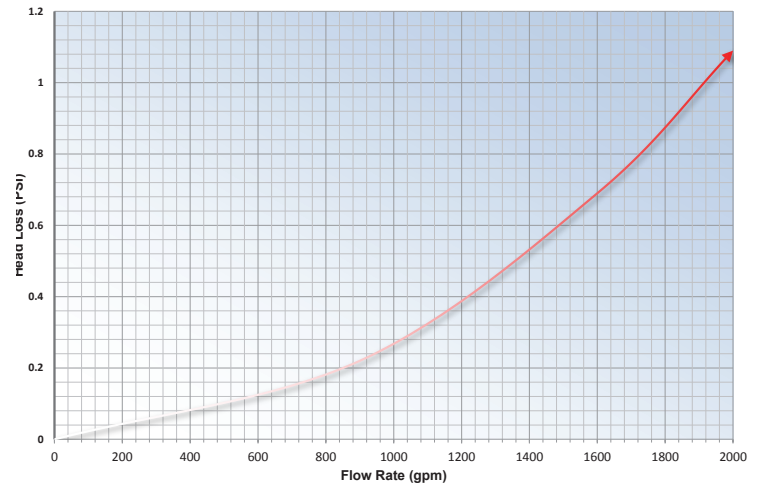
3" OCTAVE
Head Loss Performance Chart



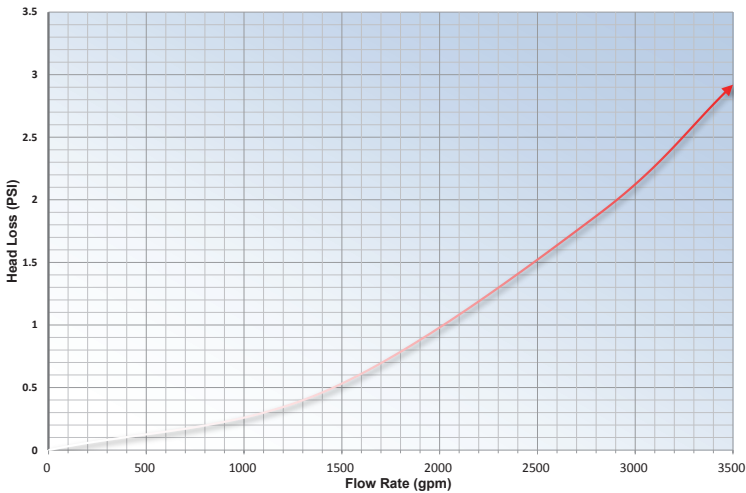
4" OCTAVE
Head Loss Performance Chart



6" OCTAVE
Head Loss Performance Chart



8" OCTAVE
Head Loss Performance Chart



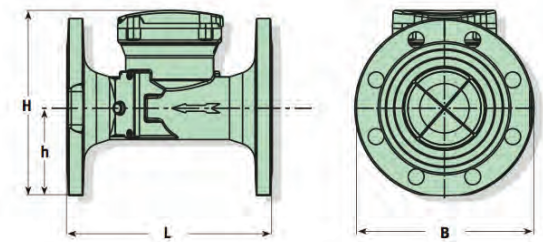
TECHNICAL SPECIFICATIONS

(SIZES AVAILABLE: 2", 3", 4", 6", 8")

Working Pressure:	175 PSI
Liquid Temperature:	32° - 122°F
Metrological Characteristics:	Meets AWWA Standard C-750-03, ISO 4064 rev. 2005
Configuration:	Compact - Display built into unit
Power Source:	2 x D Size Lithium Thionyl Chloride batteries - 10 year warranted life time
Environmental Protection:	NEMA 6P+ (IP68+), Ambient operation temp. -13°F / +131°F for the display
Display Units:	Multi line 9 digit LC display (<i>Programmable USG, Cu Ft, M³ Acre Feet for Volume with GPM or metric flow rate choices</i>)
Output (optional):	Programmable single/dual open collector pulse output, encoder OR Externally Powered loop 4-20 mA

DIMENSIONS

Model	Octave				
Nominal Size	2" (50 mm)	3" (80 mm)	4" (100 mm)	6" (150 mm)	8" (200 mm)
L - Length	17" (432 mm)	12" (305 mm)	14" (356 mm)	18" (457 mm)	20" (508 mm)
B - Width	5 3/4" (146 mm)	7 1/2" (190 mm)	9" (229 mm)	11" (280 mm)	13 1/2" (343 mm)
H - Height	6 3/4" (172 mm)	8 1/2" (216 mm)	9 7/8" (250 mm)	10 7/8" (276 mm)	12 7/8" (327 mm)
h - Height	2 1/8" (54 mm)	3 1/2" (90 mm)	4 1/2" (115 mm)	5 1/8" (130 mm)	6 3/8" (162 mm)
Weight	24 lbs (11 kg)	36 lbs (16 kg)	48.5 lbs (22 kg)	99 lbs (45 kg)	136 lbs (162 kg)



ELECTRICAL OUTPUT RESOLUTION

(QUANTITY/PULSE)

Resolution	M ³ Max Pulse width [ms]	USG Max Pulse width [ms]	Cu Ft. Max Pulse width [ms]	A.F Max Pulse width [ms]
0.0001	1			
0.001	10			125
0.01	90		3	125
0.1	125	4	32	125
1	125	40	125	125
10	125	125	125	125
100	125	125	125	125
1000	125	125		

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