



3450 W. 131st. Street
Carmel, In. 46074

317-733-2855
Fax: 317-733-2053

CITY of CARMEL WATER DISTRIBUTION
3" thru 8" INSIDE METER SETS

1. ALL NEW COMMERCIAL BUILDINGS ARE REQUIRED BACKFLOW DEVICES.
2. ALL NEW BUSSINESSES RELOCATING IN EXISTING COMMERICAL BUILDINGS ARE REQUIRED BACKFLOW DEVICES WITHIN 30 DAYS.
3. DEVICES SHALL BE OF THE TYPE APPROVED BY INDIANA DEPARTMENT of INVIRONMENTAL MANAGEMENT (IDEM)
4. DEPENDING ON THE DEGREE OF HAZARD, THE CARMEL WATER DEPARTMENT WILL DECIDE IF YOU NEED A DOUBLE CHECK OR A REDUCED PRESSURE BACKFLOW DEVICE.
5. THE DEVICE **MUST BE TESTED AT THE TIME OF INSTALLATION** BY A STATE CERTIFIED BACKFLOW TESTER AND AT THE CORRECT INTERVALS FOR THE TYPE OF DEVICE.
6. TEST RESULTS ARE TO BE SENT TO: CARMEL UTILITIES 3450 W. 131ST ST. CARMEL, IN. 46074.
7. ANY INSIDE METER SET THAT IS BELOW GROUND LEVEL MUST HAVE A **CONDUIT WITH WIRE RAN** TO LOCATE OUR RADIO TRANSMITTER AT GROUND LEVEL OR ON AN OUTSIDE WALL.



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INSTALLATION INSTRUCTIONS 3 - 4 - 6 AND 8 INCH METER

ALL 3, 4, 6, 8 INCH METERS OPERATE MORE ACCURATELY AND RELIABLE IF INSTALLED PROPERLY. WE ARE CURRENTLY USING THE MASTER METER OCTAVE ULTRASONIC METER FOR ALL INSIDE APPLACATIONS.

ALL METERS SHOULD BE PLUMBED AND INSTALLED IN AN AREA THE IS ACCESIBLE AT ALL TIMES AND MUST HAVE APPROVED BACKFLOW DEVISE DIRECTLY BEHIND METER AND TESTED WITHIN 30 DAYS.

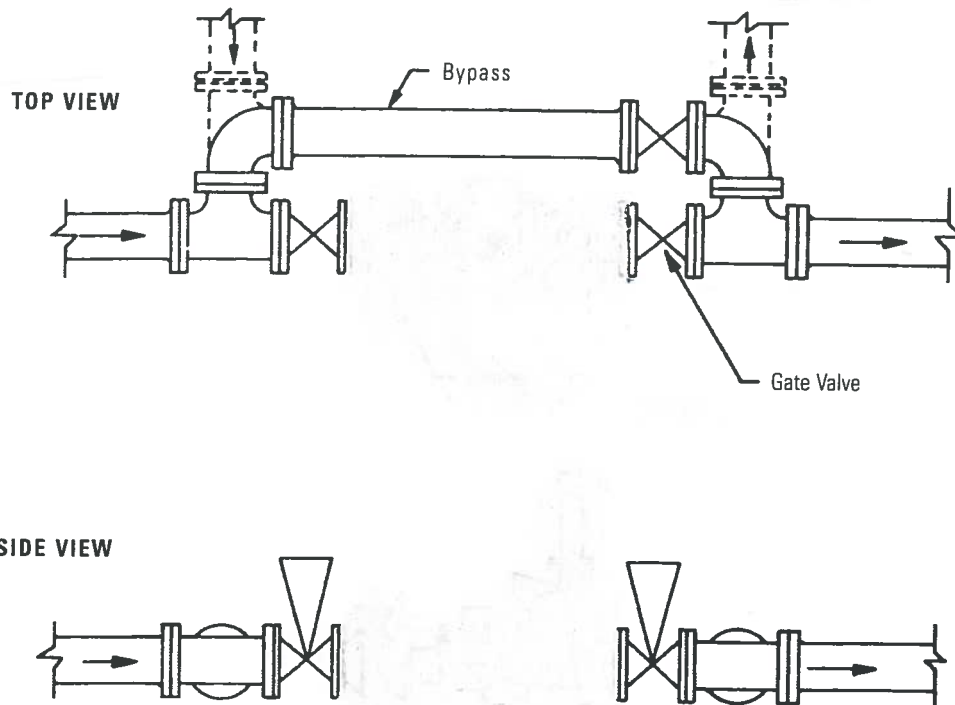
THE OPENING BETWEEN INCOMING GATE VALVE FLANGE AND OUTGOING GATE VALVE FLANGE IS 45 1/2" (THIS METER APLICATION DOES NOT REQUIRE A STRAINER)

THE METER SET NEEDS TO BE HORIZONTAL NOT VERTICAL.

THE METER SET NEEDS TO BE A MINIMUM OF 24" OFF THE FLOOR
IN ADDITION, A MAX HEIGHT OF 48" OFF THE FLOOR.

THE METER SET NEEDS TO BE A MINIMUM OF 24" FROM WALL OR ANY OBSTRUCTION.

FOR A 2 METER INSTALLATION. PLEASE CONTACT CARMEL UTILITIES FOR APPROVAL.



■ OCTAVE® ULTRASONIC METER



Octave brings the latest in ultrasonic metering technology to Commercial/Industrial (C&I) water meters and puts precise measurement where the real flows exist. An excellent alternative to mechanical compound, single-jet, floating ball, fire-service type and turbine meters, Octave excels at maintaining sustained accuracy for the life of the meter while providing smart AMR capabilities.

Technical Specifications:

Working Pressure - 175 PSI

Liquid Temperature - 32° - 122 °F

Metrological Characteristics - Meets ANSI/AWWA Standard C750-10, 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 LCD (Programmable USG, Cubic Feet, Cubic Meters, Acre Feet for volume and GPM, Lt/s, or M³/h for rate of flow)

Output - Programmable single/dual open drain digital pulse, dry contact digital pulse, encoder DR externally powered loop 4-20 mA

Features & Benefits:

- Flow sensitivity starting as low as 1/16 GPM
- Grade 316 Stainless Steel or Epoxy Coated Ductile Iron body design provides full compliance with ANSI/NSF 372 (AB1953 or NSF61G)
- No moving parts. Minimal flow intrusion. Enduring accuracy.
- No required strainer
- Wide beam ultrasonic measurement sensors for high accuracy and reliable operation
- 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
- Ruggedized NEMA 6P/IP-68+ construction; fully submersible design
- Designed to meet standards for both North American and International C&I water meters
- Optional flow measurements; Forward Only, Net Volume or Alternating Display (Forward and Reverse Consumption displayed separately)

OCTAVE® ULTRASONIC METER



Performance Data

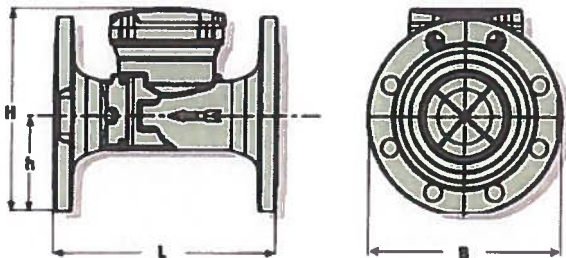
Octave Nominal Size (inch (mm))	† Typical Static Flow GPM (L/s)	Extended Low Flow 95% - 100% Accuracy GPM (L/s)	Normal Flow Range 95.5% - 101.5% Accuracy GPM (L/s)	‡ Continuous Side Max Flow GPM (L/s)	Linearity Range ±0.5% Maximum Deviation GPM (L/s)
2" (50mm)	1/16 (.004)	1/4 (.018)	1/2 - 250 (.032 - 15.77)	250 (15.77)	4 - 200 (.25 - 12.82)
3" (80mm)	1/16 (.004)	1/2 (.032)	1 - 500 (.08 - 31.54)	500 (31.54)	5 - 350 (.32 - 22.08)
4" (100mm)	1/16 (.004)	3/4 (.047)	1-1/2 - 1,000 (.09 - 63.09)	1000 (63.09)	15 - 700 (.94 - 44.16)
6" (150mm)	3/4 (.047)	2 (.13)	3 - 1,600 (.19 - 100.94)	1,600 (100.94)	20 - 1,150 (1.26 - 72.55)
8" (200mm)	3/4 (.047)	4 (.25)	5 - 2,800 (.32 - 178.65)	2,800 (178.65)	50 - 2,000 (3.15 - 126.18)
10" (250mm)	2.5 (.16)	8 (.50)	14 - 5,500 (.88 - 346.99)	5,500 (346.99)	400 - 4,000 (25.24 - 252.38)
12" (300mm)	2.5 (.16)	8 (.50)	14 - 5,500 (.88 - 346.99)	5,500 (346.99)	400 - 4,000 (25.24 - 252.38)

† Starting flows vary per meter but can go as low as the above listed flow rates

‡ Continuous Side Max Flow ranges listed for the Octave are for accurate flow measurement only and do not limit the Octave from meeting the Short-term Deluge Flow for fire services

Dimensions

Model	Octave							
	2" SS (50 mm)	2" DI (50 mm)	3" (80 mm)	4" (100 mm)	6" (150 mm)	8" (200 mm)	10" (250 mm)	12" (300 mm)
L - Length	10" (250 mm)	17" (432 mm)	12" (305 mm)	14" (358 mm)	18" (457 mm)	20" (508 mm)	17 3/4" (451 mm)	19 3/4" (502 mm)
B - Width	5 3/4" (146 mm)	5 3/4" (146 mm)	7 1/2" (190 mm)	9" (229 mm)	11" (280 mm)	13 1/2" (343 mm)	16" (408 mm)	19 3/4" (502 mm)
H - Height	6 3/4" (172 mm)	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)	16 1/2" (419 mm)	19 3/4" (502 mm)
h - Height	2 1/8" (54 mm)	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)	8" (203 mm)	9 7/8" (251 mm)
Weight - Ductile Iron	N/A	24 lbs. (11 kg)	36 lbs. (16 kg)	48.5 lbs. (22 kg)	76 lbs. (34 kg)	108 lbs. (49 kg)	150 lbs. (68 kg)	210 lbs. (96 kg)
Weight - Stainless Steel	15 lbs (7 kg)	N/A	28 lbs (13 kg)	40 lbs. (18 kg)	62 lbs. (28 kg)	88 lbs. (40 kg)	N/A	N/A



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NOTE - For Performance charts please see Engineering Document - Octave | Version 8.13