Octave stainless steel water meter

Arad

The Arad Octave is a revolutionary, accurate and reliable ultrasonic water meter based on the dual beam technology. From 2023, Netafim offers the stainless steel version with cast iron coated flanges. The Octave has excellent hydraulic characteristics and advanced possibilities. Multiple output adapters are available for the Octave: double pulse (open collector, transistor), SSR pulse, analogue 4-20mA, ModBUS, SSR pulse + analogue 4mA.

APPLICATION
Drinking water supply, irrigation and drainage systems and industrial applications

CHARACTERISTICS
- ✔ Stainless steel material with cast iron coated flanges
- ✔ Also available in High Flow (HF) version (8")
- ✔ No moving parts, hence very low clogging vulnerability
- ✔ Factory default pulse settings
- ✔ Long-term stability and reliability
- ✔ Battery with 10+ year service life expectation
- ✔ Solid mechanical design - (IP 68)
- ✔ Very precise measurement at low flow rates
- ✔ Possibility of bidirectional measurement
- ✔ Clear display including flow direction, flow rate, volume and leak detection
- ✔ Large and programmable LCD
- ✔ Programmable outputs

Measuring principle
The flow rate through the water meter is determined by means of ultrasonic technology: the sound wave moving in the direction of the water flow moves faster than the sound wave moving opposite the water flow.
The transition time AB and transition time BA are measured continuously by means of the dual beam sensors in the water meter. The difference in time between these two transition times is a proportional relationship of the flow velocity of the water through the water meter. The flow rate is then the result of multiplying the flow velocity by the cross-sectional area of the measuring tube.

Note: Because the Octave is designed for measuring liquids with the same density and viscosity as water, this meter is not suitable for measuring liquids with a different density and viscosity.
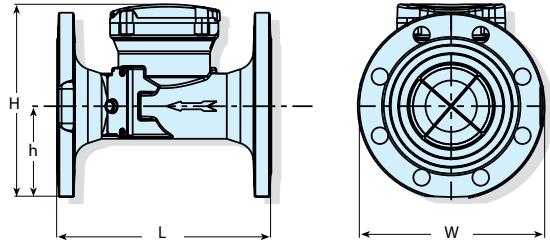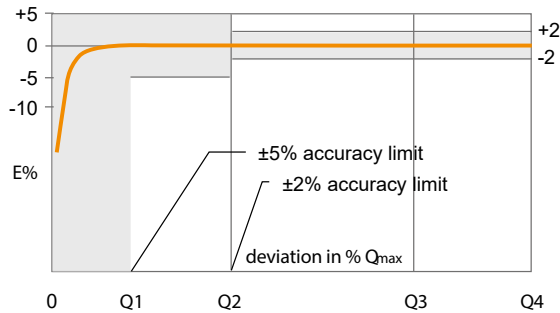
TECHNICAL DATA

Measuring accuracy	: +/- 2% between Q2 and Q4
	: +/- 5% between Q1 and Q2
Connection	: DN50-DN200 (2"-8")* - flange connections
Minimum pressure	: 0,7 bar
Maximum pressure	: 16 bar
Maximum capacity	: 1250 m³/h
Temperature range	: 0.1 °C to 50 °C
Head loss	: see chart
Material	: Stainless steel (housing)
	: Coated nodular cast iron (flanges)
Protection class	: IP68
Battery	: Lithium battery (irreplaceable)
Certification	: MID, CE, ISO 4064 (2005), AWWA C 750, WRAS, NSF
Display	: Multi-line 12-digit LCD
Volume measurement	: 1. Net (forward flow direction counterflow direction)
	: 2. Forward flow direction
	: 3. Flow direction & reverse flow direction
Output configuration	: forward pulse (standard) 4-20 mA (programmable) reverse pulse (bidirectional)
Adapter (optional)	: double digital pulse - open collector
	: SSR double digital pulse
	: 4-20 mA (analogue)
	: SSR + 4-20 mA (analogue)
	: ModBUS

* Larger sizes on request

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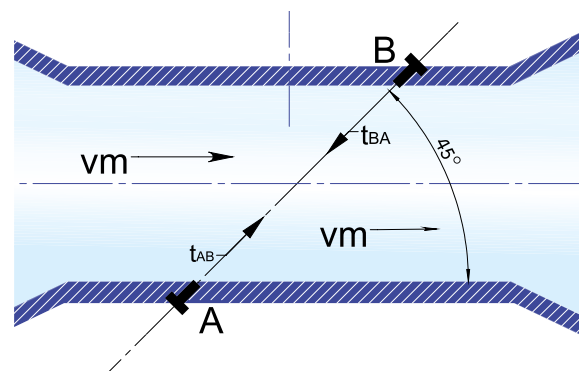
Performance and accuracy (according to MID2004/22/EC - ISO 4064: 2005)

Nominal passage	mm inch	DN50 2"	DN80 3"	DN100 4"	DN150 6"	DN200 8" HF
Minimum capacity Q1	m³/h	0,080	0,125	0,200	0,500	4
Transitional capacity Q2	m³/h	0,125	0,200	0,320	0,800	6,4
Nominal capacity Q3	m³/h	40	63	100	250	1000
Maximum capacity Q4	m³/h	50	80	125	313	1250
Minimal starting flow	m³/h	0,025	0,025	0,025	0,200	0,500

±5% accuracy limit
±2% accuracy limit
deviation in % Q_{max}

Technical drawing and specifications

Nominal passage	mm inch	DN50 2"	DN80 3"	DN100 4"	DN150 6"	DN200 8" HF
L - Length	mm	200	225	250	300	350
B - Width	mm	165	200	220	285	340
H - Height	mm	194	210	223	282	345,5
h - Height	mm	40	90	103	140	165
Absolute passage	mm	38	47	61	91	131
Weight	kg	6	7	9,5	16	32
Pitch	mm	125	160	180	240	295
Bolt dimensions	mm	M16x70	M16x80	M16x80	M16x100	M20x120
No. of bolts	mm	2x4	2x8	2x8	2x8	2x12

Head loss (bar)

DN 50
DN 65
DN 80
DN 100
DN 150
DN 200 HF
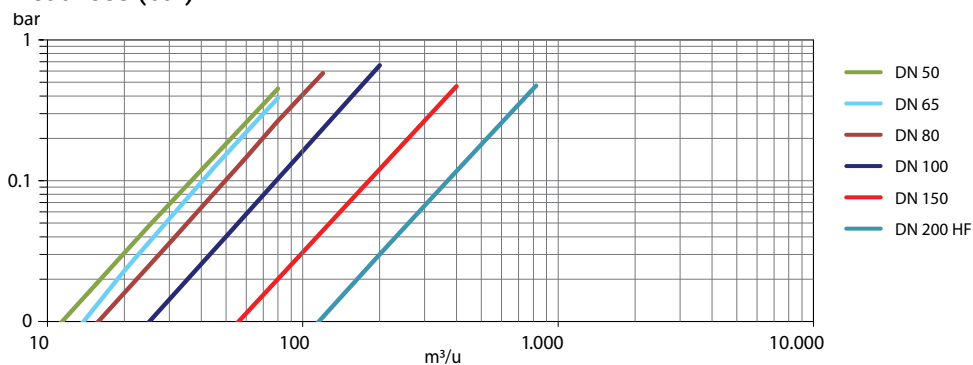
Pulse settings (factory default*)

Diameter	Pulse #1	Pulse #2
DN50 2"	1P/10L	1P/1L
DN80 3"	1P/100L	1P/10L
DN100 4"	1P/100L	1P/10L
DN150 6"	1P/100L	1P/10L
DN200 8"	1P/1000L	1P/100L

*Factory default setting: forward flow

Display segments (version >4.0)

Flow direction	System error
Flow rate	Watertemperature
Counting mode	Output mode
Communication mode	Volume units
Battery voltage	Pulse resolution