



**sonata**<sup>TM</sup>  
Ultrasonic Residential Water Meter

T u n i n g   i n t o   t h e   f u t u r e

Winner of IF Design Award 2016



DESIGN  
AWARD  
2016

**Sonata**  
Designed for Excellence

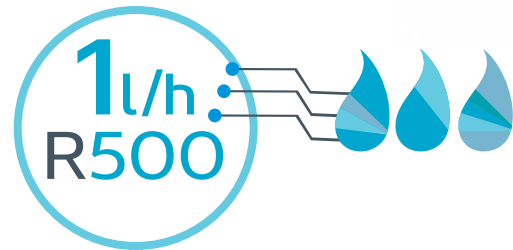
## Introduction

The Sonata is an advanced and highly accurate ultrasonic water meter and data end-point for residential applications. With no moving parts, the Sonata's robust design ensures reliable and long lasting precision. Its technology enables the measurement of even the lowest flow rates, making it the best solution for addressing NRW. The Sonata is fully IoT compatible - ready to meet the challenges of tomorrow's smart water networks.

## Groundbreaking Performance

The Sonata has a measurement range of R500. It measures the lowest flow rates (down to 1 l/h) yet will also provide outstanding performance above the maximum flow rate. The Sonata's ultrasonic technology leverages ARAD's years of experience with its ultrasonic OCTAVE bulk water meter.

- Installation in any position
- No air measuring
- Indifferent to sand and particles in the flow
- Bi-directional flow measurement



**15**  
YEARS



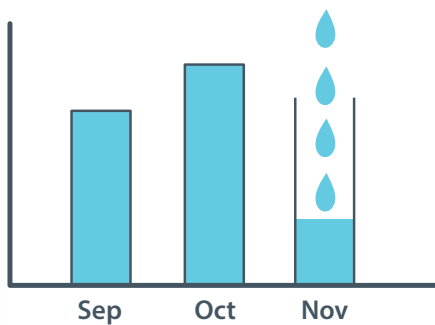
## Exceptional Reliability and Life Span

The Sonata has no moving parts, presents an IP68 register, and its body is fabricated from durable PPS composite. This robust design makes the Sonata maintenance-free and highly precise throughout its exceptional 15-year battery operated life span.



## Clear See-Through Design

The unique patent pending see-through flow tube design creates an obstacle-free water passage, minimizing pressure loss over the meter and positioning the Sonata as the lowest head loss meter available.



## The Solution for Addressing NRW

With R500 rating and starting flow of 1 l/h, the Sonata is a powerful solution for addressing NRW - detecting leaks, physical water losses as well as improving consumer's awareness and satisfaction.

Increased revenue with registration of previously un-metered water. With the capability of transmitting information at a density of every 15 minutes it can be considered a near real-time informer.

## Data End Point

The Sonata data collection and logging capability can provide a high resolution detailed local consumption profile and help utilities inform customers on unusual consumption patterns or events. This promotes customer engagement and resource awareness.

Multiple settable alarms and events include Leaks, Backflow, Dry, Tamper, Pipe Bursts and Freeze Risks available.

The non-volatile flash memory ensures no data loss even in cases of end-of-battery life.

## IoT Ready

The Sonata is a data collection end-point device coupled with a two-way radio, providing the foundation for a reliable and scalable AMI network, ready for any future application or challenge.

This data-rich sensor contributes important information to support decision making at the grid management level, as well as for on-site analysis.



## Environmental Friendly

- Lead free, RoHS
- 15-year battery life span means no battery changes throughout the product lifespan
- Low head loss reduces energy demand

## Technical Data

### Standards

- MID (OIML R49:2013, EN 14154, ISO 4064:2014)
- OIML R-49:2013
- NSF61+NSF372
- ACS
- IP68 (submersible)
- WRAS
- KTW

### Technical Specifications

Head Loss	from 0.16 bar at Q3
Maximum Working Pressure	16 bar
Maximum Water Temperature	50°C
Body	PPS, highly reinforced composite material

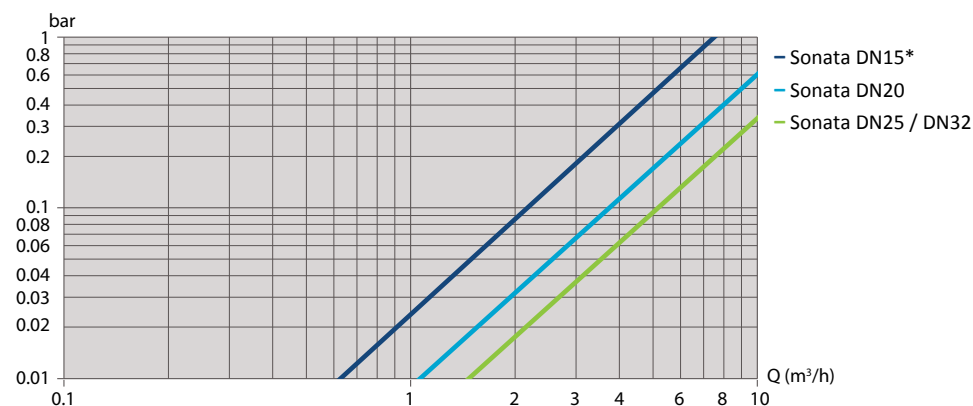
### Dimensions

Model	Sonata15*	Sonata20	Sonata25	Sonata32
Size	DN15	DN20	DN25	DN32
L – Length (mm)	165/170	190	260	260
H – Overall height (mm)	117	117	121	121
h – Height above axis (mm)	80	80	82	82
W – Width (mm)	80	80	80	80
Threads	BSP			
Weight (kg)	0.900			

### Flow Rate Performance Data:

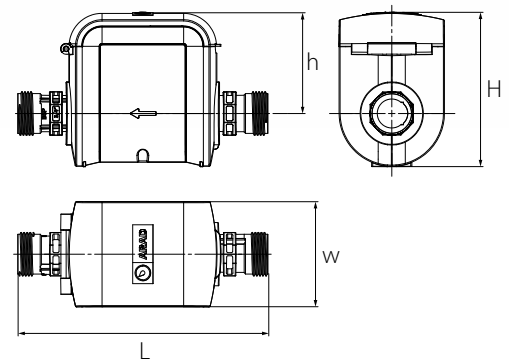
Model	Q4 (m³/h)	Q3 (m³/h)	Q2 (l/h)	Q1 (l/h)	R	Starting flow (l/h)	Δp [m]
Sonata15*	2.0	1.6	5.1	3.2	500	1	0.16
	3.1	2.5	8.0	5	500	2	0.16
Sonata20	3.1	2.5	8.0	5	500	2	0.16
	5.0	4.0	12.8	8	500	5	0.16
Sonata25	5.0	4.0	12.8	8	500	5	0.16
	7.9	6.3	20.2	12.6	500	8	0.25
	12.5	10.0	32.0	20	500	12	0.4
Sonata32	12.5	10.0	32.0	20	500	12	0.6

### Head Loss Curve



\* release of the Sonata 15mm will be during 2018

For the most updated version, please view our website: [www.arad.co.il](http://www.arad.co.il)  
Specifications are subject to change without notice.



### Installation Requirements

- The meter can be installed in any position (horizontal, vertical or inclined).
- Prior to the installation of a new meter, the pipeline must be flushed.