VATA VERKS
water and gas intelligence for buildings

Non-Invasive, Whole-Building
Water Usage Data **VV – 100 W**
Gas Usage Data **VV – 100 G**

DATA SHEET

The Vata Verks Smart Sensor is the real-time, non-invasive solution to the Water and Natural Gas data acquisition problem. Orders of magnitude more granular and higher resolution than a utility can provide.
The one solution for all 50,000 utility territories.

Without plumbers, or cut pipes, or utility involvement. Without disruption to the building, the metering, the tenants, or to your schedule.

Applications

- Suitable for dry and wet (with Remote) environments
- Whole building applications
- Projects requiring hi-res or hi-frequency data
- Suitable for disruption-restricted locations
- Suitable for secure / government locations
- Digitizing old and new meters without replacement
- Baseline studies
- LEED and other Efficiency programs
- Cost and usage tracking
- Leak and anomaly detection
- Building security and oversight
- Research and development
- Continuous and Ongoing Commissioning

Features

- Non-invasive, non-utility water and gas data (gas for the first time)
- No plumber or cut pipes
- No utility involvement, delay, or cost
- No disruption to building, tenants, or project
- Installed by you or your technicians
- Compatible with all pipe and meter sizes
- Compatible with >95% of installed utility meters
- Highest data Granularity / Resolution available
- Secure Data
- MQTT, Modbus-TCP, Pulse, or Data logging. Modbus-RTU via model VV-102 (*more coming*)

Building owners and facility managers need building Water and Gas usage data to track costs, detect anomalies and leaks, oversee operations, to improve efficiency, for boiler upgrades or CHP baseline studies, and as required by certifications such as LEED and some regional regulations.

Water and Natural Gas are not like other tracked variables.

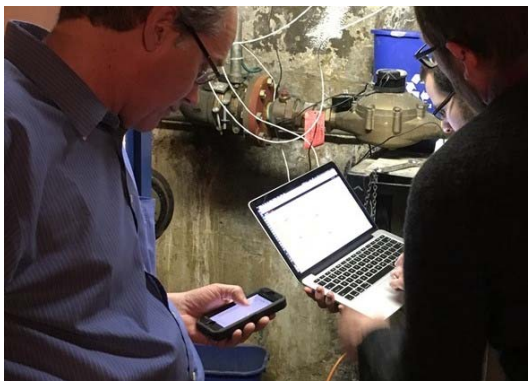
Until now, Water and Natural Gas data required plumbers and cut pipes, and disruption to building operations to install a private Water or Natural Gas meter, OR the utility installation of a second Pulse output on the existing meter.

This was disruptive to project flow, required property managers to participate in project coordination, was often expensive and in the end resulted in low-quality, “dirty” data.

Vata Verks leverages the meters that already exist in the building, eliminating hardware, and specialized installation. The sensor simply straps to the side of, and detects the internal mechanical movements of, the Water or Natural Gas meter, and from this movement, resolves high-resolution, real-time flow data.

No special installation skills or hardware.
No disruption to project flow or building operation.
No 3rd party involvement.

Integrates with BMS and building monitoring systems.



Applications

Water Meters
All sizes positive displacement, compound, multi-jet, piston

Gas Meters
All sizes diaphragm, rotary, and most turbine

Solid state meters such as ultra-sonic, are not compatible

Data and Transmission Options

- **Modus-TCP** via Ethernet
- **Telnet** via Ethernet
- **MQTT** via Ethernet
- **Pulse** via Twisted pair
- **Data Logging** via Onboard memory

For **Modbus-RTU** see Model VV-102

Resolution

The sensor detects and totals meter revolutions for the calculation of flow volume. The resolution is proportional to the size of the meter.
The optional Ultra Hi-Resolution upgrade is up to 100x the resolution of Standard HI-Resolution.

Example Resolutions

Meters	Standard Hi-Res	Optional** Ultra Hi-Res
Smaller Water Meter	2.28 oz.	0.0228 oz.
Larger Water Meter	10.66 oz.	0.1066 oz.
Smaller Gas Meter	0.11 ft^3	0.0011 ft^3

*Your meter size, and therefore resolution, will differ.
**Optional Ultra Hi-Resolution upgrade.
**Ultra Hi-Res is not compatible with Pulse Output

Data Rate

Programmable to any data rate, ≥1 second

Accuracy

Revolutions: ~100% fidelity to meter.
Volume: Commonly within 1% of meter read

Control / Remote Management

Local: via serial connection with USB cable
Remote: via telnet or onboard web server

Standard Installation Limits

- -20C to 40C
- 10% - 95% RH non-condensing
- **Indoor locations (Use Remote Probe for wet/outdoors)**
- 18 in. sensor reach
- Not for hazardous locations

Accessory Remote Probe (VV-101)

- -20C to 40C
- **Weather-safe and Submersible**
- **Burial-safe cable**
- 3 ft – 200 ft sensor reach

Data Ownership

- Data is owned and directly controlled by the user
- Suitable for government or secure locations

Power Consumption

300mA Max

Power Options

- Wall power via 5V USB adaptor
- Terminal Block via +5VDC 1Amp max
- Backup Battery: Rechargeable 3.7V Li-ion. (~3-6 hours backup)

Certifications

Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance

Product: VV-100
Responsible Party
Vata Verks Inc
28 School St. Arlington, MA 02476
info@vataverks.com

FCC Compliance Statement
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.