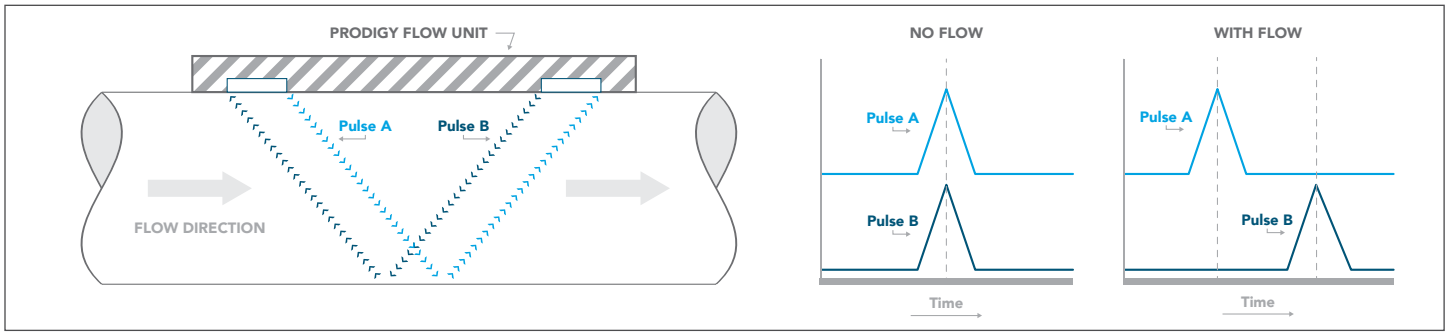
PRODIGY
FLOW

INDUSTRY LEADING PRODIGY TECHNOLOGY OPTIMIZED FOR FLOW MEASUREMENT

Prodigy Flow is an IoT pipeline flow monitoring device designed for fully wireless real-time monitoring of flow rates. The technology provides data in Velocity, Flow rate or Volume by simply strapping the device to the outside of any pressurized pipe from 2" to 12" in diameter. The technology will supply 15 min diurnal flow data, sent once a day, for 3 years on its own battery power. Prodigy Flow is ideal for monitoring any existing unmetered fire main, virtual or hydraulic District Metered Areas (DMA's), Sub DMA's or Force Mains, without requiring a hot tap or interrupting the supply in anyway. Prodigy Flow can be installed within minutes and uses live temperature offset to improve the data accuracy. Prodigy Flow saves you money, time and unnecessary inconvenience.



PRINCIPLES OF TECHNOLOGY

Unlike conventional ultrasonic flow sensors that measure the time it takes for an ultrasonic pulse to be transmitted from one probe to a second receiving probe, the Prodigy Flow improves on this method by monitoring two signals. The system measures the signal in both directions providing an upstream and downstream pulse to ensure more reliable flow measurements in varying conditions such as air bubbles, air pockets, electrical interference, cavitation, ventilation and vibration.

PRODIGY FLOW SIGNAL PROCESSING

The Prodigy Flow utilizes advanced signal processing to allow flow measurements to be calculated from multiple signal transmissions in both directions, helping eliminate external noise through smoothing.

OPERATIONAL REQUIREMENTS

Operating mode	Fully wireless – LTE CAT M1 connectivity. Internal antennas as standard, external antennas available upon request
Application	Any pressurized pipe
Pipe materials	Copper, CIP, SIP, DIP, Steel, PSC, Concrete, AC, Plastic, GRP, All
Measuring/Monitoring capability	15 min bi-directional diurnal with once per day upload as default
Attachment means	Non-invasive clip/bolt on device
Pipe diameters	2in. – 12in. diameters
Power requirements	Self-powered and 5vdc external option
Installation environment	IP67 as standard, inside, outside, below ground. IP68 available upon request
Cellular coverage	Any – please specify country & location

INSTALLATION RECOMMENDATIONS

Location points	Exposed pipes
Min. pipe exposure required	14in. length and full circumferential access

SPECIFICATIONS

Dimensions	9.9in. (252mm) length x 2.5in. (64mm) width x 2.5in. (65mm) height with external rail of 12in (300mm) length x 2in. width (50mm).
Weight	Weight 4 lbs.
Enclosure material	Delrin with stainless steel base plate and Aluminium transducer rail
Power	3.6v Lithium primary battery. External DC power plug-in available
Battery life	Up to 3 years operating in normal conditions
Operating temperature	-55 to 85°C (-67 to 185°F)
Communications Modem	Carrier certified LTE CAT M1 modem
Processor	Twin processors (8-bit microcontroller and 32-bit microcontroller)
ADC	Twin 16-bit multichannel ADC and 24-bit multichannel ADC
Non-volatile memory	128Mbytes
Ultrasonic flow sensor	Twin 1Mhz ultrasonic transducers (Optional extra)
Accelerometer	3 Axis low consumption board mount accelerometer
Sample rate	Feature specific sampling rates 1 sample/sec averaged over 15 minutes
Call in and upload frequency	Standard once per day unless event triggered
Product warranty	3 years standard – terms apply
Data and Web Portal	Inclusive