



## HYDRACLAM® WATER QUALITY & PRESSURE MONITOR

The Hydraclam® Water Quality Monitor is a purpose-built system for monitoring water quality parameters within the potable water distribution system. It can either be adapted to fit directly on to a fire hydrant, which are typically found in chambers, located in most streets, or via a sample tapping located anywhere in the reticulation system.

The Hydraclam is part of the Clam family of products and is designed to monitor turbidity, pressure and conductivity; the Chloroclam® monitor is designed to monitor chlorine levels. The data gathered is then uploaded via GPRS to a secure website. It can be used for targeted water monitoring within identified problem areas or more ideally, located throughout the distribution network to provide a comprehensive view of water quality.

### SENSING

The Hydraclam water quality monitor utilises an optical turbidity sensor to ensure accurate and reliable results. Water is purged before each measurement to give a fresh sample for continued accurate and representative readings.

### COMMUNICATION

Each Clam unit is powered and communicates to the logger. The logger provides the GPRS, GSM communication system required to transmit the sampled data to the central database. The unit takes regular measurements and the data is stored locally for later transmission. Data is periodically uploaded to the secure database so any measurements that breach preset limits are immediately transmitted.

### INSTALLATION

Hydraclam units are designed to be installed at any strategic point where connection to the potable water main is possible and the pressure is between 1-10 bar. The logger should be mounted in a position to allow optimal chance of GPRS network connection.

### MANAGEMENT

All users are able to view the measurement data using a remote graphical user interface. Those users with higher level permissions are able to manage the operation of each individual unit. Alerts can be issued by email or SMS text. Data can be downloaded in CSV format for use with Microsoft's Excel® software or other applications.

#### Key Benefits

- Sampled remote monitoring of turbidity and pressure
- Accesses the water main via hydrants
- Quick and easy installation
- Wireless communications and alarms
- Data accessed via a secure web portal
- Battery powered operation and communications allows hassle free review of quality data feed

#### Network Monitoring Benefits

- Identification of network problems and poor infrastructure
- Identification of network supply leakage or low pressure
- Provision of targeted network planning data for strategic decision support
- Operational data for rezoning of distribution networks and valve adjustment
- Enables monitoring of water quality problems in specific zones

## TECHNICAL SPECIFICATIONS

TYPICAL PHYSICAL CHARACTERISTICS	DIMENSIONS (MM)	WEIGHT (GRAMS)	MATERIAL OF CONSTRUCTION
System		4000	
Logger unit	160 Dia x 160 long	800	ABS
Sensing unit	130 Dia x 170 long	2000	Coated Aluminium body, PVC sensing head.
Flow control unit	150 x 140 x 80	1300	ABS, nickel plated brass fittings.

### TURBIDITY SENSOR

Measurement method	IR , Nephelometric
Range	0.1 to 10 NTU
Accuracy	± 5% of reading ± 0.1 NTU
Resolution	0.05 NTU

### CONDUCTIVITY SENSOR

Measurement method	4 pole
Range	20-3500 µS
Accuracy	+/- 2% of range
Resolution	1 µS

### PRESSURE SENSOR

Measurement method	Silicon micro machined element
Range	0 to 10 Bar Absolute
Accuracy	± 1.25% of Full scale
Resolution	0.01 BarA

### BATTERY (4 DAILY UPLOADS)

Sampling Frequency	Typical Battery Life
5 minutes	8 weeks
15 minutes	22 weeks
30 minutes	41 weeks
1 hour	71 weeks

### ENVIRONMENTAL

Ingress	IP 68 (1m for 48hrs)
Operation	0 to + 40°C
Storage	-5 to +65°C

### POWER

3.6v Primary lithium-thionyl chloride cell (non rechargeable)
Typical Capacity 2 x 13Ah @ 20°C

### SERVICE INTERVAL

Turbidity	2 points at 1 and 10 NTU
6 to 12 months	<ul style="list-style-type: none"> <li>Recommended calibration and service intervals is 6 months, maximum 12 months</li> <li>The actual interval is dependent on sampling intervals and operating conditions</li> </ul>

### DATA RETENTION

60 Days	<ul style="list-style-type: none"> <li>Typical sampling @ 15 minute intervals. Data storage is reset after each upload to the Web Portal</li> <li>Data may be overwritten if the data is not uploaded to the Web Portal during this time.</li> </ul>
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885 Mountain Highway, Bayswater, VIC, 3153, Australia

1300 661 809 (Ph) / +61 3 8720 6597 (Int) 1300 661 708 (Fax) / +61 3 8720 6502 (Int) [www.evoqua.com.au](http://www.evoqua.com.au)

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