



*Pressure Sewer  
Systems*

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Built under ISO9001  
Quality Management System  
Built to WSAA Standards  
Certified by BSI to NSF/ANSI46





## What is a pressure sewer system?

A pressure sewer system is a network of fully sealed sewer pipes, which are fed by a grinder pump at each property. The pump grinds the solids present in the wastewater to a fine "slurry", which is then pumped through a small diameter pipeline from the house to the main, and the main to the treatment facility.

## Pressure Sewer Systems

Aquatec Pressure Sewer Systems are one of the most adaptable, economical and environmentally friendly sewerage systems on the market today.

*Aquatec is Australasia's number one provider of customised end-to-end pressure sewer systems.*

Aquatec is at the forefront of the wastewater revolution. We want more innovative systems and smarter responses without extra costs or excessive time involvement.

Aquatec takes a customised approach to the design of Pressure Sewer Systems based on practical requirements and site conditions. Single, dual and other pump options meet changing demands across domestic, commercial and industrial applications.

### Manufacturing Process

Aquatec holds JAS-ANZ third party accreditation, and our Pressure Sewer Systems are manufactured in a controlled factory environment under strict ISO 9001:2015 quality standards.

Proprietary chamber designs are pre-moulded to exact specifications, stringently tested and certified prior to delivery.



ISO9001: 2015 Accreditation  
 Designed to comply with AS/NZS1546.1:2008  
 NSW Health Certificate of Accreditation  
 NT Government Department of Health and Families  
 SA Health Certificate of Accreditation

## Chambers

Aquatec's Pressure Sewer chambers are engineered with a domed base forcing solids into the cutter of the pump, eliminating the potential for solids build up in dead zones and associated odour issues.

### Product Range

Models	Litres*	Diameter	Depth	Depth to inlet (max)
PSS900	900	1.2m	1.45m	0.9m
PSS950	950	1.1m	1.65m	1.0m
PSS1100	1100	1.0m	1.6m	1.1m
PSS1500	1500	1.0m	2.2m	1.7m
PSS3000	3000	1.5m	2.2m	1.7m
PSS5000	5000	1.5m	3.0m	2.4m
PSS7500	7500	1.85m	3.0m	2.4m
PSS10000	10000	2.2m	3.0m	2.4m
PSS15000	15000	2.5m	3.5m	2.9m

\* - Nominal

### Enviroplex

A unique shallow base for adaptability across adverse ground conditions and rocky terrains.

LDPE (Low Density Polyethylene) roto moulded from high-grade virgin polyethylene.



### Duplex

A dual pump system for multiple residential, industrial or commercial applications.

LDPE or fibreglass dependent on daily volume requirements.



### Triplex

Fibreglass chamber engineered on a case-by-case basis for multiple commercial and industrial applications where greater storage and depth is required.



### Enduraplex

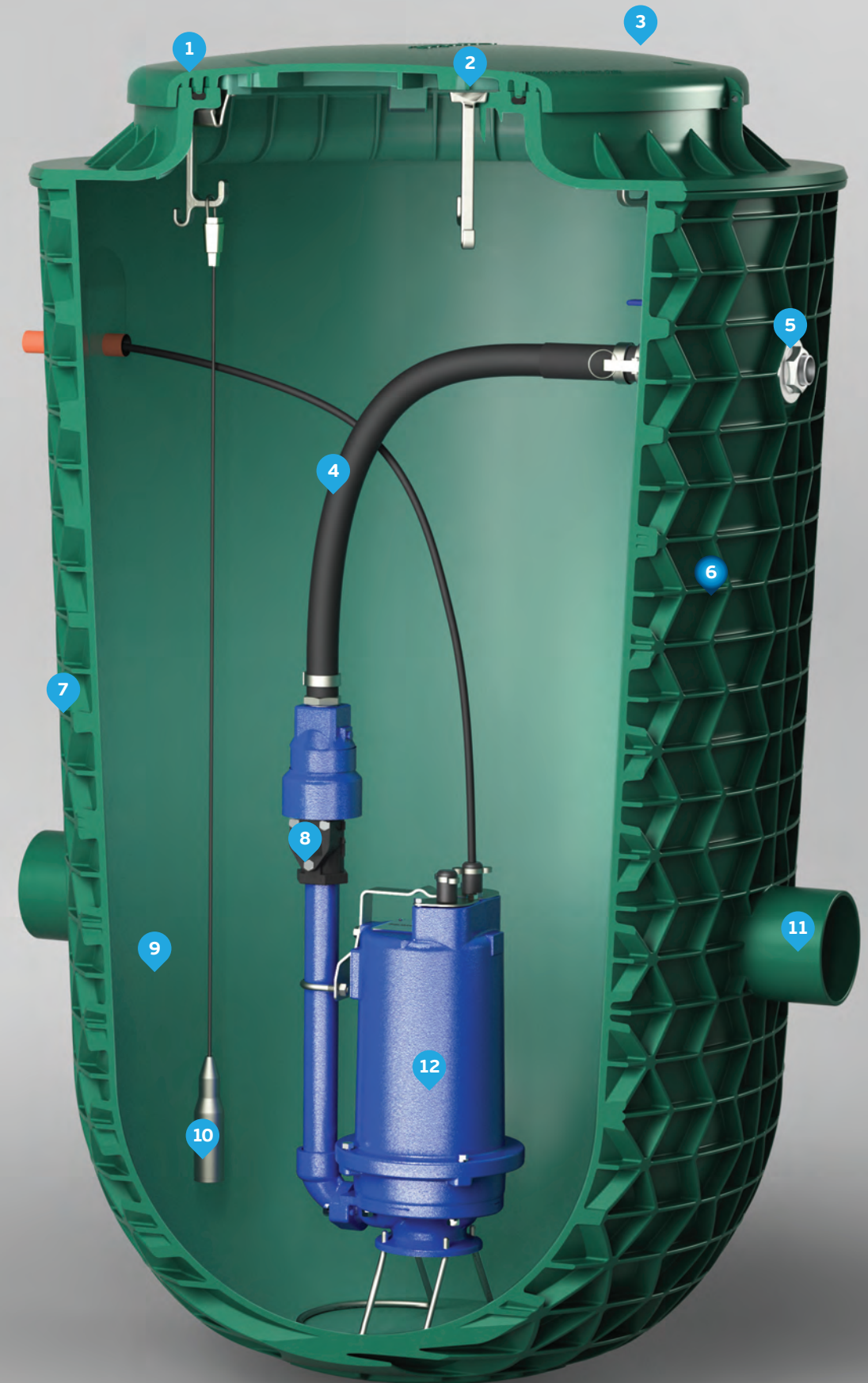
A world class injection moulded single pump system designed to endure the most rigorous conditions.

- 1 Self venting lid, with provision for optional profile seal for flood prone areas.
- 2 Heavy duty glass filled polypropylene cable hooks.
- 3 Child safe one bolt cover for ease of removal, with pad lockable option.
- 4 Specially manufactured PN16 wire enforced rubber discharge hose.
- 5 316 S/S outlet, valve & disconnection coupling
- 6 Honeycomb inspired rib design to provide maximum strength whilst remaining lightweight.
- 7 High strength injection moulded HDPE\*\* tank designed for 50 year life.
- 8 Anti-siphon valve and tank flush.
- 9 Smooth tank interior minimising solids build up.
- 10 Pressure transducer providing incremental control and measurement of tank level.
- 11 Moulded inlet stubs to ensure no leakage to the environment.
- 12 OGT Omni Grind Turbine pump providing peace of mind grinding and 20 year design life\*.

\*Tested for the equivalent of 20 years usage for domestic sewer applications.

\*\* High Density Polyethylene.

Compliant with WSA-07



## Pumps

Aquatec's pumps hold the highest levels of protection on the market today, being continuously rated to IP68 and fully submersible to depths of up to 9 metres.

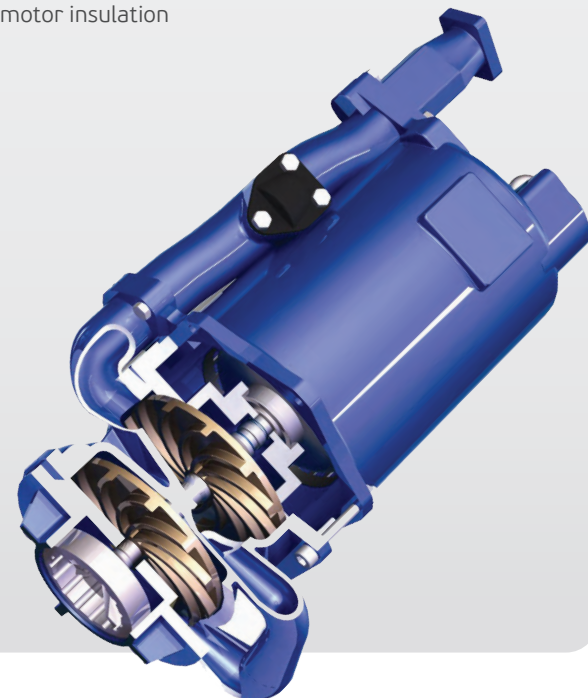
### Omni Grind Turbine - OGT

- New innovation technology
- Low amp turbine technology
- Residential, industrial and commercial applications
- Smaller cutter radius for greater ability to grind fibrous materials
- Special Aerospace Industry coating to prevent wear from abrasive products
- Non-contact pumping assembly with minimal wearing parts
- Flows up to 1.2l/s giving higher scouring velocities
- Capable and tested to operate at 80m continuously giving greater flexibility for network design
- Certified by BSI to NSF/ANS146
- Class F motor insulation
- Highest cutting force of any pressure sewer pump



### Omni Grind Plus - OGP

- For commercial, industrial and large scale residential applications
- Recessed vortex impellers for higher flows with reduced wear
- Flows up to 1.75l/s
- Capable and tested to operate at 60m
- 1.5kw motor
- Available in single or three phase
- Hydraulically balanced
- Class F motor insulation



### Optional Accessories

Aquatec offers a wide range of Optional Accessories to meet or improve on your project specifications. Our Technical Consultants make recommendations for enhancements to your Pressure Sewer System based on budgets and the unique demands of your application.

#### Key Optional Accessories include:

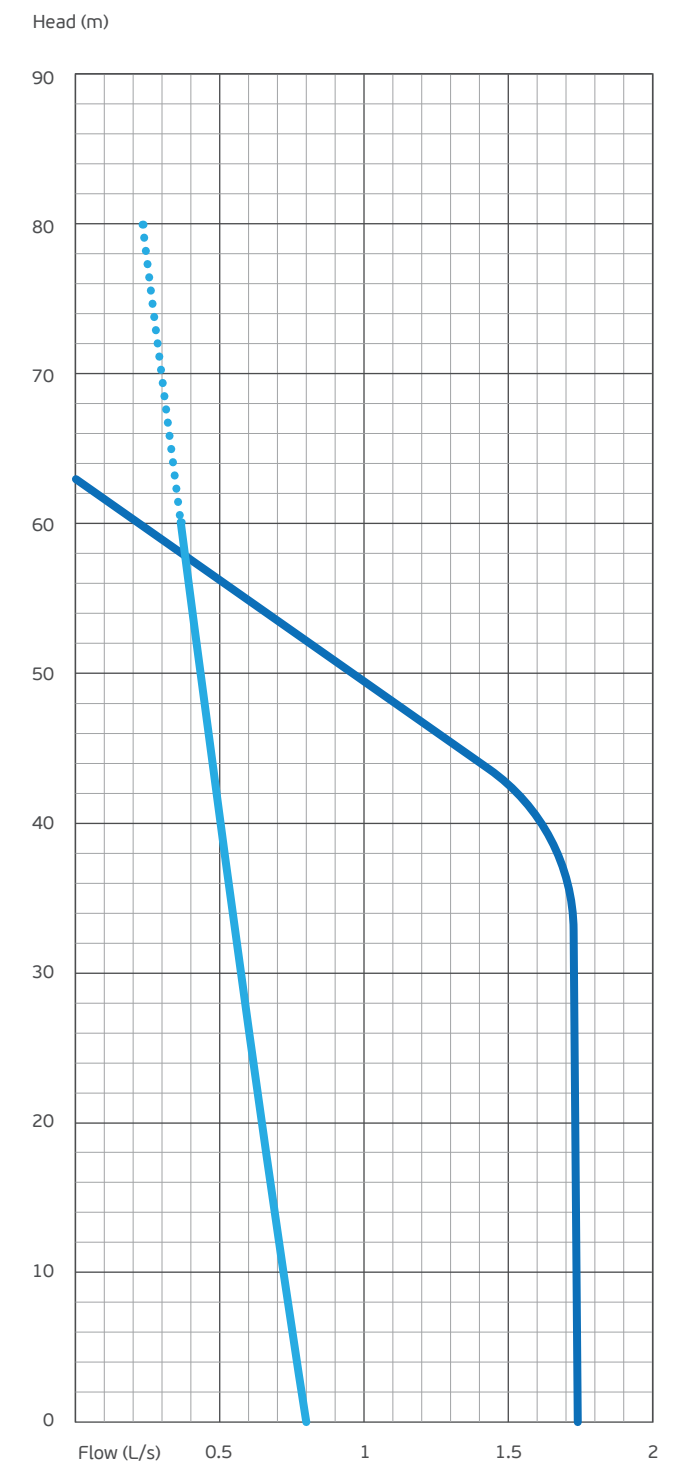
- Full Range of Custom Chambers
- External Storage Vessels
- Service trailers and equipment
- Access Covers
- Odour Controls
- Swiftlift Pump Trolley

### Pump Upgrades

Upgrade kits with new components purpose-built for existing networks are designed to retrofit into your existing system for trouble free operation.

### Grinder Pump Performance

- OGT Regenerative Turbine
- OGP 2 Stage Centrifugal



## Level Controls

Aquatec offers a variety of methods for level control, from simple level monitoring and control to remote real level display and operation.

### Hydrostatic Transducer

Aquatec's Hydrostatic Transducers deliver offsite monitoring and control of liquid levels with pinpoint accuracy via desktop or smartphone, providing a superior level of reliability and precision over solid state sensors.

- Provides incremental liquid level via signal output
- Compact design
- Wholly protected sensor body
- Industry Standard IP68 submergence rating
- Flush diaphragm to withstand chemicals, fats and grime
- Designed to function continuously in challenging conditions



### Float Switches

Aquatec's Float Switches are capable of operating pumps or alarms either integral with the pump or wired directly to the control panel connection.

- Consistent and reliable long life performance
- Double liquid and raw sewerage proof chamber protecting the internal mechanism
- Smooth, circular shape ideal for Pressure Sewer applications
- Simple and proven operation



## Accessories

Aquatec's Reticulation Valve Kits introduce a range of mechanisms throughout the network for preventative pressure management, automatic cleaning and scheduled maintenance. All reticulation kits are 316 SS.

From isolating individual properties or lines within the network, to periodic cleaning or pressure reduction, Aquatec's Reticulation Valve Kits are available in kit form inclusive of all parts for immediate installation.

### Boundary Connection Kits

Aquatec's Boundary Connection Kits provide a means of isolation at the property boundary. Each kit includes a full bore isolation valve, a non-return valve, inspection tee and an optional flushing point mounted inside a polycarbonate or concrete valve box marked 'Pressure Sewer.'

#### Lid Ratings

- Class A
- Class B
- Class D



### Isolation Valve Kits

Available with extension spindles for ease of operation, Aquatec's Isolation Valve Kits provide line isolation throughout the reticulation for scheduled maintenance. Each kit includes a flanged, resilient seated isolation valve, polyethylene connection stubs with backing rings, gaskets and bolts, and a cast iron twist lock inspection cover with concrete surround.

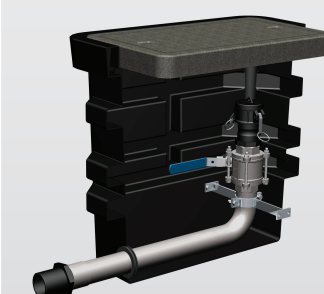


### Flushing Point Kits

Aquatec's Flushing Point Kits provide a means of ejection or introduction of high volumes of liquid for periodic scouring of a pressure sewer main. Each kit includes a double acting pipework, full bore lockable isolation valve and camlock connection all mounted inside an underground chamber.

#### Lid Ratings

- Class B
- Class D

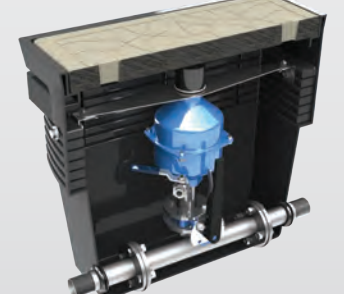


### Air Valve Kits

Aquatec's Air Valve Kits provide a means of air release for high sections of the network, and as a siphon break for descending mains. Each kit includes a double acting sewerage combination air valve, isolation valve and interconnecting pipework, mounted inside a heavy duty, underground chamber.

#### Lid Ratings

- Class B
- Class D



## OmniSmart Controller

The OmniSmart controller is a fully automated pre-programmed device that accurately controls flows within your reticulation systems, prioritising pump operation to optimise your pressure sewer network. The OmniSmart is capable of operating single pump units and multiple pumps.

Aquatec's OmniSmart controller thinks outside the box, by:

- Integrating your system into the surrounding sewer connections;
- Providing the ability to retrofit to upgrade existing pressure sewer installations
- Optimising the whole network by analysing usage and flow to iron out the peaks and troughs.

This optimisation:

- Increases the life of your whole network;
- Self-scouring rising mains by creating daily 'flushing waves';
- Prioritises operation after power failure based on effluent levels in each tank;
- Improves flow and minimises retention issues;
- Reduces both capital and operation expenditure;
- Reduces additional infrastructure/maintenance requirements; and
- Reduces whole of life costs by increasing the life expectancy of existing assets.

Features	500	1000B	6000B	6000C
Certified to all Australian and New Zealand Standards	•	•	•	•
Key lockable IP66 polycarbonate enclosure (316 S/S for OmniSmart)	•	•	•	•
Backing plate for easy mounting on wall or post	•	•	•	•
90Db audible alarm with automatic mute	•	•	•	•
External mute button for audible alarm	•	•	•	•
Single Pump Control	•	•	•	•
High-level alarm (low voltage) LED strobe light	•	•	•	•
Automatic and manual pump modes	•	•	•	•
Microprocessor based operation with upgradeable firmware	•	•	•	•
LED system status indication	•	•	•	•
Compatible with level switches or hydrostatic transducer	+	•	•	•
Back up high level switch compatible	•	•	•	•
Adjustable Over Pressure Protection	•	•	•	•
Motor current monitoring and protection for both low and high amps	+	•	•	•
Brown out/Low voltage protection	•	•	•	•
High voltage protection	•	•	•	•
Real time Clock (date and time)	•	•	•	•
Pump protection from Anti-seize, excessive run time and motor starts	•	•	•	•
Adjustable pump and alarm activation points	•	•	•	•
Adjustable Alarm delays	•	•	•	•
Internal memory with status history (last 4000+ events including motor state, adjustable fluid levels granularity, configurational changes and alarms)	•	•	•	•
USB Plug and Play administration interface and history	•	•	•	•
SCOP Compatible for improved system health and diurnal curve flattening.	•	•	•	•
Controller behaviour and activation based on time of day	•	•	•	•
Adjustable start delay after power failure based on fluid levels	•	•	•	•
Automatic scouring, time delay, and storage modes	•	•	•	•
Output to control external devices	•	•	•	•
Battery Backup for Alarms, fluid levels, history, and telemetry/SMS.	•	•	•	•
Hours run and pump start counter	•	•	•	•
Backlit LCD screen for system status, diagnostics and liquid level	•	•	•	•
Telemetry/SCADA RS485 and RS232 MODBUS	•	•	•	•
Telemetry/SCADA 4G Cellular and DNP3	•	•	•	•
Telemetry/SCADA WiFi/Ethernet and DNP3	•	•	•	•
SMS notifications, remote diagnostics, pump control and set point control/adjustment	•	•	•	•
Email Alarm notifications	•	•	•	•
FTP support of historical event data transfer	•	•	•	•
LPWAN/IoT Integration	•	•	•	•

Note: Designed for use with most technology manufacturers' equipment (retrofitable)

- Standard
- Optional
- + Level switches and high amp protection only



## Remote Capabilities

### SCADA

The standard OmniSmart Controller has inbuilt smarts for localised analysis and decision making. It is easily upgradable to become an edge device within your SCADA network by simply inserting a plug in module. This has the benefits of reducing demand on both your network and SCADA servers, improving response times, while still giving you real time operational and management capabilities. As an edge device, the OmniSmart also continues to give you all the benefits of an optimised reticulation network even during loss of communication or SCADA system outages.

### SMS/Email

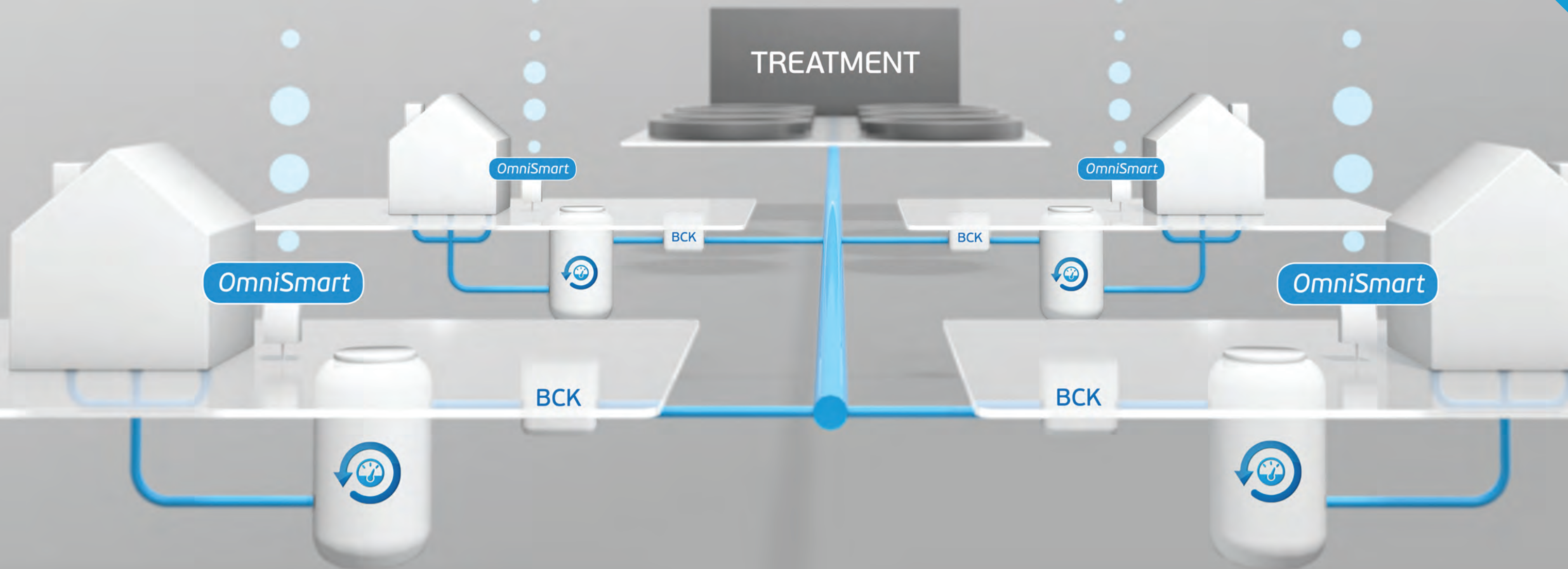
The OmniSmart supports two way SMS communication for fault notification along with remote diagnostics, adjustment and rectification. It can also email faults directly to your job management system to automate ticket issuing and prioritisation. The OmniSmart also has the ability to produce nightly historical exports via email for in-depth reporting and analytics.

### File Transfer Protocol (FTP)

The OmniSmart transfers historical events to your FTP site at defined intervals, for automated phasing into your data warehouse. This gives you near real time data for reporting and analytics without the need of a SCADA system. OmniSmart supports CSV, tab delimited, and XML data file formats.

### Internet of Things (IoT)

The OmniSmart can connect to a LPWAN (Low Powered Wide Area Network) base station many kilometres away, to send notifications of fluid level changes and/or issues onsite. This data is then on-forwarded to a secure IoT platform in the cloud, which can be fed into your SCADA system via DNP3 as if it were a traditional RTU.



## After Sales Service

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### Maintenance Training

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Aquatec's Maintenance Training caters for existing personnel in need of additional assistance or new personnel unfamiliar with the operational and maintenance requirements of our Pressure Sewer Systems.

### Technical & Product Support

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Aquatec's Technical and Product Support Service responds to any product or technical enquiry, including recommendations on safe-use of our products.

### Service Warranty

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Aquatec are committed to providing full after sales service, support and long term warranty on all components and workmanship.

#### HEADQUARTERS

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