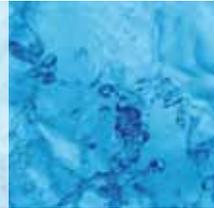




Water Industry



The water industry includes the production and distribution of clean water plus the collection, treatment and disposal of waste. Water plants are more readily associated with the supply to and the waste treatment from domestic premises. However, major industries, for example chemical, steel and food processing, often have their own water treatment plants and, therefore, have similar applications for Honeywell Analytics' products and services.

Making compliance with legislation easy

The water industry has evolved in recent years due to changes in local, national and international legislation. These legislative changes have demanded considerable investment in new or improved processes and associated monitoring equipment, such as gas detection.

With a comprehensive range of gas detection equipment and associated accessories ideally suited to the water industry, Honeywell Analytics makes compliance with your country specific regulations both easy and cost effective.

Know the law in your country – it's YOUR responsibility

There are a variety of standards (European and national) governing the monitoring of toxic, flammable and corrosive substances used in the water industry.

For detailed information on the compliance requirement for EU and Non EU countries, we have provided some useful resources below. Please note that national and local legislation may also be applicable in your country.

http://ec.europa.eu/environment/water/water-framework/index_en.html

http://osha.europa.eu/en/good_practice/topics/dangerous_substances/oel/nomembers.stm/members.stm

Don't risk legal action – get compliant

Failure to comply with the relevant standards in your country could potentially result in heavy fines and legal action. Due to the demands on resources, the growing requirement for clean water across Europe and the need to prevent environmental pollution, there is an increasing incidence of companies being investigated and receiving legal action for non compliance.

UK, April 2008: One of Britain's biggest water companies could face extra fines for falsifying leak data on top of a £35.8 million fine (€48.6 million) from regulator Ofwat.

UK, August 2008: A major UK water supplier has been found guilty of 47 incidents of unlawful pollution. The company has been fined £171,500 (€219,520) over the past five years.

Compliance protects your insurance

It is also important to remember that failure to comply with regulations could potentially invalidate your company's insurance, putting your plant and its assets at serious financial risk.

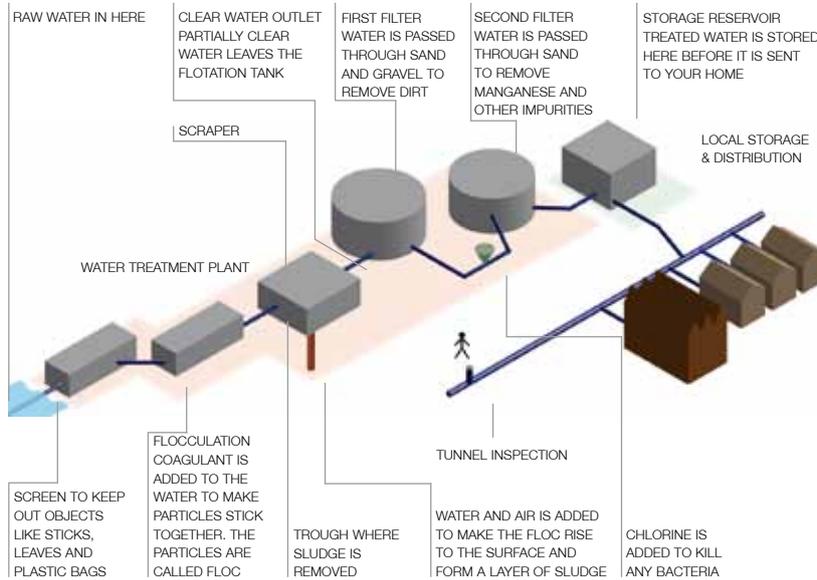
Compliance could SAVE you money!

In many countries there are certain tax advantages for businesses who exercise tight controls over environmental and pollution compliance. This means that complying with the international, national and local laws that apply to your region, could actually reduce the amount of taxation your business pays.

Water Industry Overview



Drinking water treatment and distribution overview



Traditionally water treatment plants have been located outside the boundary of the towns and cities they serve. This ensures that noxious odours and the visual impact of these plants are kept away from the residents. Population growth plus the introduction of more stringent waste water quality regulations has led to the expansion of some plants and the building of new ones. The final location of these plants and their impact on the local environment, have become the focus of much attention. This has resulted in some plants being built under ground and considerable investment in odour control equipment. Due to the enclosed nature of these underground plants, applications for Honeywell Analytics products are greater than those for above ground plants.

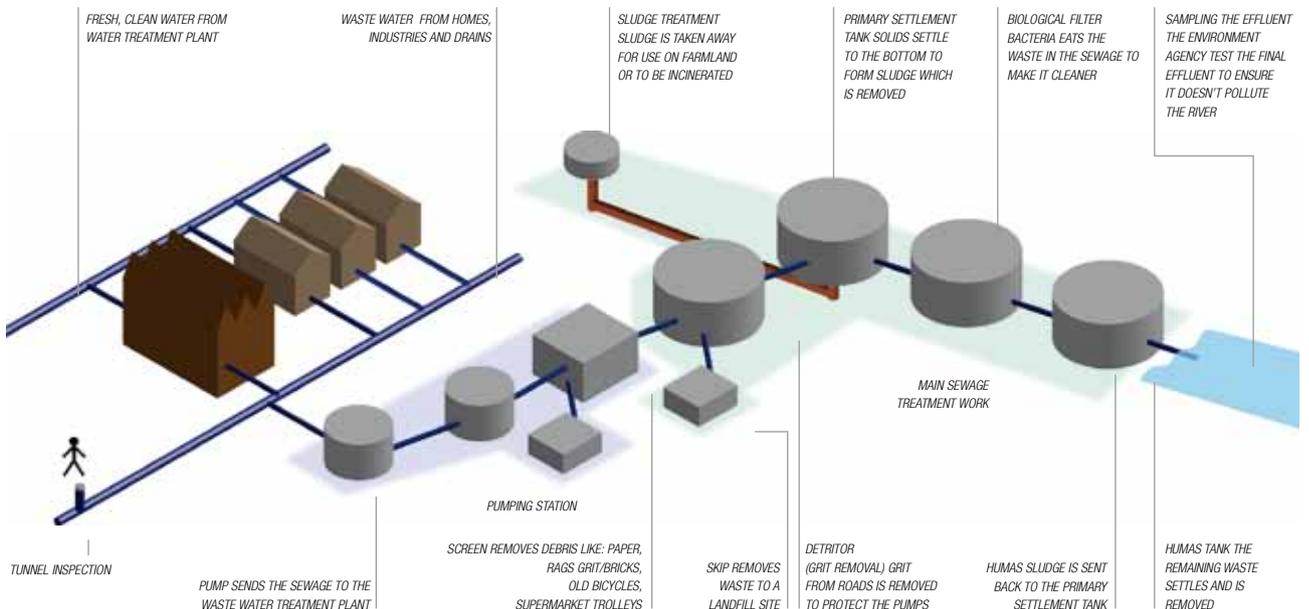
Market drivers

- Growing drinking and waste water quality standards.
- Growing international legislation regarding waste treatment and disposal.
- Growing environmental regulations.
- Growing personnel safety regulations (European SCOEL)
- The need to improve process efficiency and reduce operating costs.

Industry structure

- Drinking and waste water authorities
- Large industrial plants with integral water treatment plants
- Drinking and waste water engineering design consultants
- Civil, mechanical and electrical installation contractors
- Equipment and controls manufacturers

Sewage treatment and disposal overview



Potential Applications and Products



Potential applications and products

When it comes to gas detection for the water industry, we have a wide variety of equipment designed to keep plant and personnel protected from a diverse array of hazards; from low-cost solutions designed to drive down the cost of compliance to high functionality devices that minimise the ongoing cost of ownership.

Products optimised for the toughest environments

As the definitive experts in gas detection, we understand the importance of providing solutions that are able to meet the demands of the toughest environments. We provide application engineering and product modification to ensure our equipment is optimised for use in the harsh and challenging environments found in water industry applications.

Application	Risk	Detection		Control	Annunciation	Portable
Purification	Toxic Gases	 Series 3000 XPIS		 System 57		 Impact, Impact Pro and Impact IR
Power Plant	Combustible	 Sensepoint	 Searchpoint Optima Plus	 Unipoint		
Waste Water	Combustible	 Sensepoint	 Searchpoint Optima Plus	 Unipoint		 Impact, Impact Pro and Impact IR
Sewerage Digester	Toxic Gases and Combustible	 Sensepoint	 Searchpoint Optima Plus	 Unipoint		
Sludge Drying	Toxic Gases	 Sensepoint	 Searchpoint Optima Plus	 Unipoint		
Pump Chambers and Wells	Combustible	 Sensepoint	 Searchpoint Optima Plus	 Unipoint		 Safelink
Odour Monitoring	Toxic Low Level	 SPM Single Point Monitor	 Searchpoint Optima Plus	 System 57		

Potential Applications



Application 1: Purification Plant

The treatment of potable water and water for industrial use aims to eliminate infectious contaminants for safe consumption and to minimise the build up of algae and other micro organisms. Treatment can be made using Chlorine, Chlorine Dioxide or Ozone, plant size will often dictate the preferred method. These chemicals are mostly applied as a gas from gas cylinders held in a dedicated plant or dosing room. Accidental release of these toxic chemicals is a concern to plant personnel. In process, Chlorine analysers are used to monitor and control residual Chlorine levels to within strict regulated limits. Should an excess of 'in process Chlorine' be monitored, Sulphur Dioxide (SO₂) is applied as a gas to remove the excess Chlorine. Sulphur Dioxide gas cylinders and dosing equipment is stored in a separate plant room often next to the Chlorine dosing room. Both fixed and portable gas detectors are used in association with these dosing rooms. Chlorine and Sulphur Dioxide fixed gas detectors are often wired to a common control panel with separate executive actions. At some plants additional dosing operations take place, these include: Carbon Dioxide to correct the PH (acidity) level and Ammonia to sweeten its taste. Both are applied in a gaseous form and their respective plant / dosing rooms would also warrant monitoring for accidental releases.

Note: Ozone apparent from its disinfectant

Application 2: Power Plant

Diesel and gas powered generators are used on a number of plants for a variety of purposes including electricity generation and pumping. Larger generator packages are often containerised or housed in purpose built rooms. Fuel and/or exhaust leaks give rise to potential fire, explosive or toxic risks. Fixed point gas detector systems are used to monitor for some or all of the following: Flame, natural gas, LPG, Carbon Monoxide, Nitrogen Dioxide and Oxygen deficiency.

Application 3: Waste Water Plant Intake, Penstocks

Penstocks are a type of gate which either control or halt the flow of waste water at the intake to a treatment plant. These gates and their network of water channels are the first recipient of upstream waste waters. These intakes are often above ground and open to atmosphere, however with a growing need to reduce the environmental impact of these plants, many are being built underground. One concern is the influx of hydrocarbons from petrol tankers or spillages leading to an explosive risk within the treatment plant. To guard against this possibility hydrocarbon detectors are used, often located above the maximum water level, plus periodic checks with portable equipment.

Application 4: Sewerage Digester Plant

Digester plants take sludge from preliminary settlement and filtration tanks and convert it into a safe condition for disposal. There are two main types of digester: Aerobic (where air is bubbled through the sludge) and Anaerobic (where the sludge is heated in an Oxygen free atmosphere or tank). Aerobic digesters are most commonly used in the processing of farm, food and household organic waste. Anaerobic waste is more commonly used within municipal sewerage treatment plants. Both types accelerate the activity of bacteria within the sludge, breaking it down and producing Methane and Carbon Dioxide. The Methane is either stored in inflatable gas storage spheres, fed back into an anaerobic digester to facilitate mixing or used as a fuel supply to an engine to generate heat or electricity. Fixed and portable Methane and Carbon Monoxide gas detectors are used in association with this plant. An additional bi-product is the generation of Hydrogen Sulphide. Scrubber systems are used to remove unpleasant odours escaping into the atmosphere. Hydrogen Sulphide monitoring before and after the scrubber is often required.

Application 5: Sludge Dewatering and Drying Plant

A variety of sludge dewatering and drying machines are used within the industry. The output of this process permits bagging of the waste for removal from site. These machines operate by using one or a combination of filtering, pressing, centrifugal and heating techniques. All pose the risk of releasing entrenched Hydrogen Sulphide and, therefore, gas detectors are often deployed in areas around this equipment.

Application 6: Pump Chambers and Wells

Pump chambers and wells are used within clean and waste water plants plus their associated network of supply and output pipelines. Two basic configurations exist: wet wells and wet/dry wells. Wet wells consist of a single chamber using either submersible or top-mounted surface pumps. Dry/wet wells consist of two chambers where water is contained in the wet well and pumps and associated controls are contained in the dry well. Monitoring for Hydrocarbons coming into the wet well from an upstream spillage petrol or Methane from natural waste is common. Dry well monitoring for Methane, Hydrogen Sulphide and Oxygen deficiency is typical, using both fixed and portable equipment.

Application 7: Confined Space Entry

From time to time it is necessary to inspect areas not normally inhabited. This may be for maintenance or simply routine inspection. Rules governing entry into confined spaces must be observed and portable gas detection equipment must be used. For details on "working safely in confined spaces" contact Honeywell Analytics and request a booklet on the subject.

Water Industry Overview



Water	Website / Contact	Summary of Content:
<i>Drain Trader</i>	www.draintraderltd@btinternet.com	<i>Magazine covering all aspects of drainage, the latest trenchless technology, health and safety, training, environmental and water news, new products and finance. Aimed at those within the drainage and sewage industry, including water boards and local authorities.</i>
<i>Envirotec</i>	www.peeblesmedia.com	<i>National magazine covering water, waste and pollution technology. Aimed at those involved in the environment technology sector.</i>
<i>European Environmental Law Review</i>	www.kluwerlaw.com	<i>Journal covering the latest developments in environmental law. Covers news and legal issues concerning dangerous substances, noise, land, conservation, waste management and fresh water. Read by environmental lawyers.</i>
<i>Pipeline & Gas Journal</i>	www.undergroundinfo.com	<i>Technical journal about pipeline operations and maintenance worldwide, gas transmission and distribution, the storage and transportation of oil, gas, water and industrial products. Aimed at planning, engineering and operations management.</i>
<i>Utility Europe / Utility Week</i>	www.utilityweek.com	<i>Management briefing on the gas, electricity, telecom and water industries in Europe. Aimed at chief executives and managers of utility companies, investment bankers, financial institutes and those who are interested in the developments occurring in European markets.</i>
<i>Water & Environment International / Water Services</i>	www.turret-rai.co.uk	<i>Magazine covering clean and dirty water treatment, desalination and irrigation, with features on allied environmental issues. Aimed at buyers and specifiers of water utilities, contractors, consultants and industrial end users.</i>
<i>Water & Environment Manager</i>	01992 535323	<i>Magazine covering all aspects of water and environmental management. Also contains news from the CIWEM and features on legislation, safety practices, households and industry demands. Read mainly by members of the Chartered Institute of Water & Environmental Management.</i>
<i>Water & Sewerage Journal</i>	www.mcmillan-scott.plc.uk	<i>Journal covering all aspects of water engineering and sewage treatment. Aimed at privatized water utilities and all those who work in service and the water and service utilities.</i>
<i>Water & Waste Water Int</i>	01992 656600	<i>Magazine about international water and waste-water management, irrigation and groundwater development. Aimed at managers and engineers in the water and waste industry.</i>
<i>Water Products</i>	www.edie.net/wp	<i>Journal containing information on new products, services and technological developments within the water and waste treatment industry. Aimed at managers and engineers working in the water and waste treatment industry.</i>
<i>WET News</i>	www.wetnews.com	<i>Newspaper for the water and effluent treatment industries. Aimed at water management, engineers and industrial water users.</i>
<i>World Water & Environmental Engineering / WWT Water & Waste Treatment</i>	www.edie.net/wow	<i>Journal covering all aspects of the water and sewerage industry, from developing nations to industrialized areas. Read by professionals working in the water and wastewater industry, including contractors, consultants, funding agencies and public and privately owned utilities.</i>

Capability:

Honeywell Analytics designs and manufactures a wide range of industrial fire and gas detection equipment for industrial applications. Equipment ranges from portable gas detection products through to integrated fire and gas detection fixed systems.

A wide range of detectors are available, which includes petrol vapour, Methane, Hydrogen Sulphide, Chlorine, Sulphur Dioxide, Ammonia and Carbon Dioxide. These detectors are designed to international standards for use in designated safe and potentially hazardous areas.

This comprehensive range of detection products is backed by a global network of presales applications engineers and project management teams, plus commissioning and routine service engineers.

Water Industry Overview



Compliance doesn't have to cost the earth

We understand that complying with regulations can often be costly in terms of gas detection integration. At Honeywell Analytics, we provide not only quality solutions designed to deliver performance and affordability, but a flexibility regarding the financing of gas detection.

Unrivalled service and support

We offer our customers so much more than just maintenance, field support and training. In fact our full range of service initiatives means that we are able to support our customers every step of the way; from product advice and site evaluations helping you to choose the right system for your budget and application, right through to supporting you throughout the life of your product or safety system.

Are you looking for a more cost-effective solution?

For many companies, financing gas detection equipment through a third-party makes good business sense. The opportunity to spread payments over a longer period allows greater flexibility in terms of cash flow, making the purchase of devices easier and more affordable.

Although straight purchase may appear to be the cheaper long-term option with no interest accrued, using cash to purchase equipment draws vital resources away from other critical investments that may be required. In reality, financing gas detection equipment helps to preserve cash and liquidity, offering greater freedom and benefits for many businesses.

Honeywell Analytics provides a number of flexible finance options including HP and leasing. Honeywell Analytics finance options are provided by Honeywell Global Finance LLC and Key Equipment Finance. For more information about financing options from Honeywell Analytics, please contact us: Tel: +41 (0) 792 089 141 or email: gasdetection@honeywell.com

Technical services

As part of our complete customer commitment Honeywell Analytics offers a variety of services:

- On-site support and maintenance
- Field and emergency call out
- Expertly trained, qualified personnel on-hand to resolve issues
- Fully equipped workshops to ensure quick turnaround on repairs
- Global network of service and repair facilities
- Preventative/corrective maintenance
- Repair and maintenance of third-party gas detectors
- Extended warranties on products

End to end support

There are a number of additional services we are able to offer:

- Site evaluation
- Pre-installation support
- Custom drawings and CAD designs
- Installation supervision (including wiring and device operation)
- FAT testing and site acceptance
- Project management
- Third-party device support (even when you don't have a maintenance contract with us)

Training

We also offer a diverse array of training packages carried out either on-site or at one of our dedicated training centres.

Our Product Range



Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

- » Detection of flammable, oxygen and toxic gases (including exotics)
- » Innovative use of 4 core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared
- » Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)
- » Cost effective regulatory compliance solutions

Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces.

These include:

- » Detection of flammable, oxygen and toxic gases
- » Single gas personal monitors – worn by the individual
- » Multi-gas portable gas monitors – used for confined space entry and regulatory compliance
- » Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

- » Full technical support
- » Expert team on hand to answer questions and queries
- » Fully equipped workshops to ensure quick turnaround on repairs
- » Comprehensive service engineer network
- » Training on product use and maintenance
- » Mobile calibration service
- » Customised programmes of preventative/corrective maintenance
- » Extended warranties on products

Find out more

www.honeywellanalytics.com

Contact Honeywell Analytics:

Europe, Middle East, Africa, India

Life Safety Distribution AG
Weiherallee 11a
CH-8610 Uster
Switzerland
Tel: +41 (0)44 943 4300
Fax: +41 (0)44 943 4398
gasdetection@honeywell.com

Technical Services

EMEA: HAexpert@honeywell.com
US: ha.us.service@honeywell.com
AP: ha.ap.service@honeywell.com

www.honeywell.com

Americas

Honeywell Analytics Inc.
405 Barclay Blvd.
Lincolnshire, IL 60069
USA
Tel: +1 847 955 8200
Toll free: +1 800 538 0363
Fax: +1 847 955 8210
detectgas@honeywell.com

Asia Pacific

Honeywell Analytics Asia Pacific
#508, Kolon Science Valley (I)
187-10 Guro-Dong, Guro-Gu
Seoul, 152-050
Korea
Tel: +82 (0)2 6909 0300
Fax: +82 (0)2 2025 0329
analytics.ap@honeywell.com

Please Note:

While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This publication is not intended to form the basis of a contract.