Swimming Pool Equipment – Monitoring, Control and Interconnectivity

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Flow Meter Input – UV Controllers

- Reduction in pump frequency can also reduce UV energy consumption

Increasing use of VSDs to save pumping energy in periods of pool closure

Link the analogue output signal from a flow meter to the UV control panel

When the UV has variable power control, UV controller turns down lamp power when flow drops

- **UV systems do not have to run at full power**

Process Interlock – Filters and UV Systems

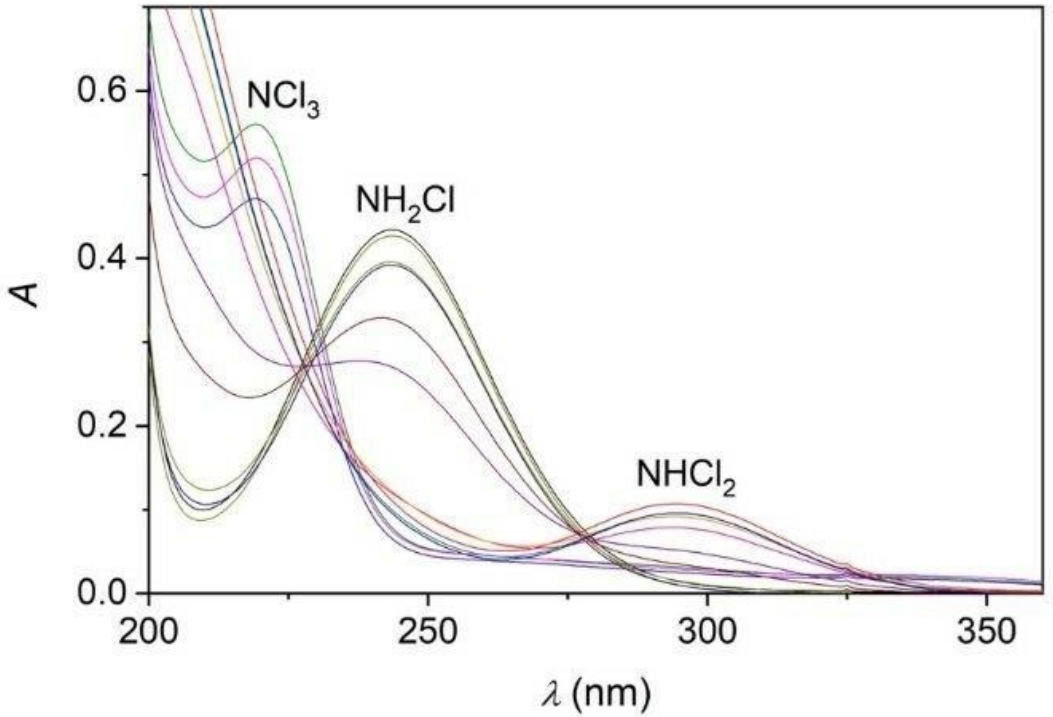
- Automatic Pause in UV Operation During Filter Backwash or Bump Cycle

- Linking the filter to the UV controller:

- Backwashing of sand filters and bumping of regenerative media filters often occurs after hours
- UV lamps will heat water in the chamber during periods of no flow and cause a temperature fault, unless stopped
- Process interlock avoids manual stop and start before and after backwash / bump

UV Boost Function Combined Chlorine

UV absorbance spectra for chloramines



UV Ramps Up To Full Power With High Combined Chlorine Alarm

Chemical Controllers – Interaction With Other Plant Equipment

Flow meter

1. Reduction in pump speed if all measured parameters are within range

2. Interlock stops dosing chemicals when pump stops

1. UV power boost when combined chlorine is high

2. Reduces lamp power based on circulation flow

Controls dosing of disinfectant based on measured chlorine value

Controls dosing of acid based on measured pH value

Adjusts dosing of flocculant according to circulation flow

Evolution of Chemical Dosing

- From Past and Present to Future

Mid-20th Century

- Chlorine gas in widespread use

1978

- UK government recommends discontinuing use of chlorine gas and use of hypochlorites consequently increases, but often manually dosed

1980's

Introduction of basic analogue controllers introduced to the leisure market

21st Century

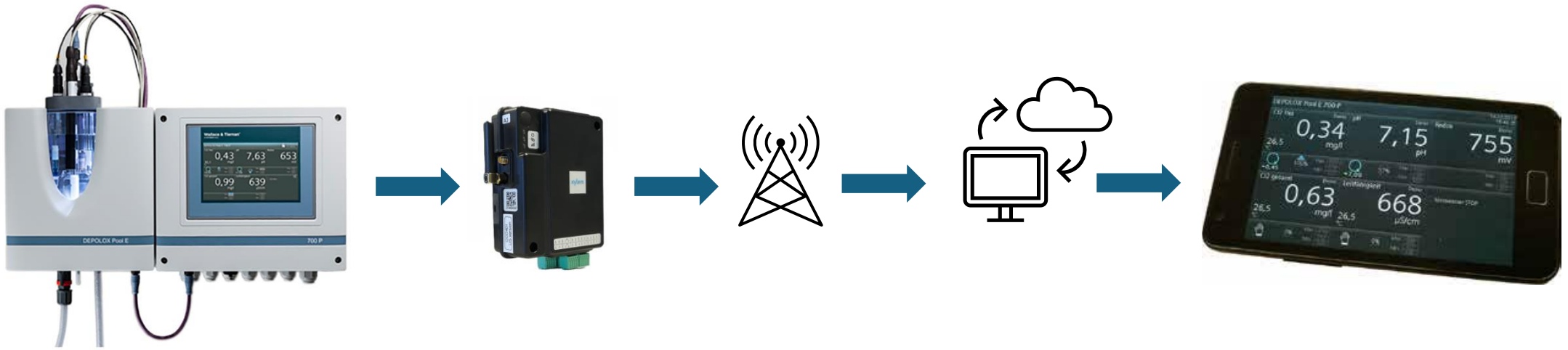
- Automatic chemical dosing systems become more sophisticated, incorporating amperometric sensors

The Future

- Smart technology for chemical dosing systems linked to mobile apps; 2nd generation sensors

Smart Technology – Remote Monitoring

Avensor Mobile App with Chemical Controller



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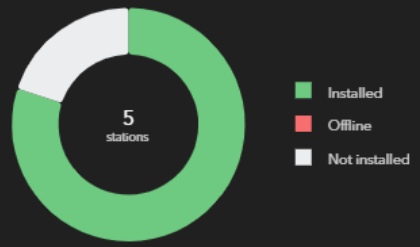
Stations

5 stations

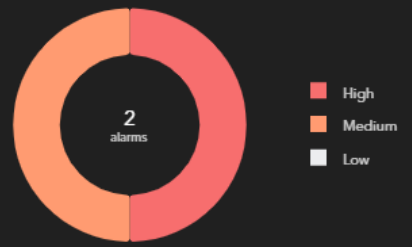
View all



Alarms

2 active alarms

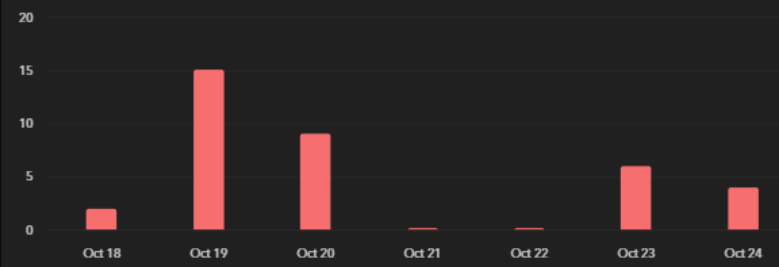
View all



Alarm statistics

New alarms per day

Period: 7 days



Alarms per station

Top 5 stations

View all

Priority: High , Medium , Low

Period: Past day

DEPOLOX Pool Compact - Demo Unit (2 total)

2

ATG UV Warrington (1 total)

1

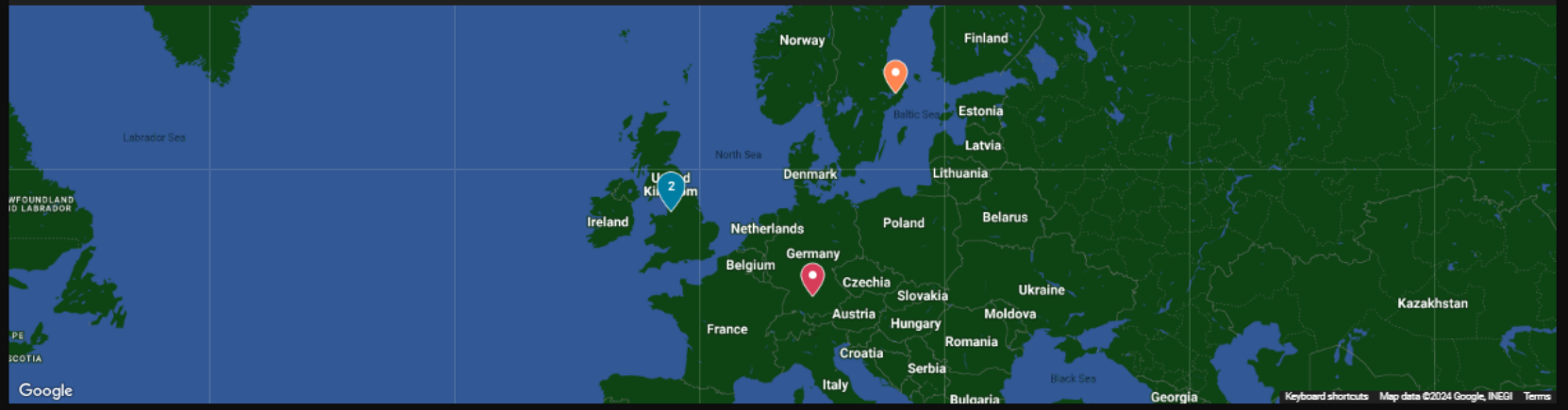
Warrington test 2 Rivo (1 total)

1

Map

4 stations

View all



Latest alarms

5 latest active alarms

View all

Device communication error
50m-pool
a month ago

Sven Alarm
50m-pool
an hour ago

Latest anomalies

5 latest active anomalies

View all

Looking good!
No new anomalies

Utilization

Top 5 stations

View all

Target: Station

Period: Past day

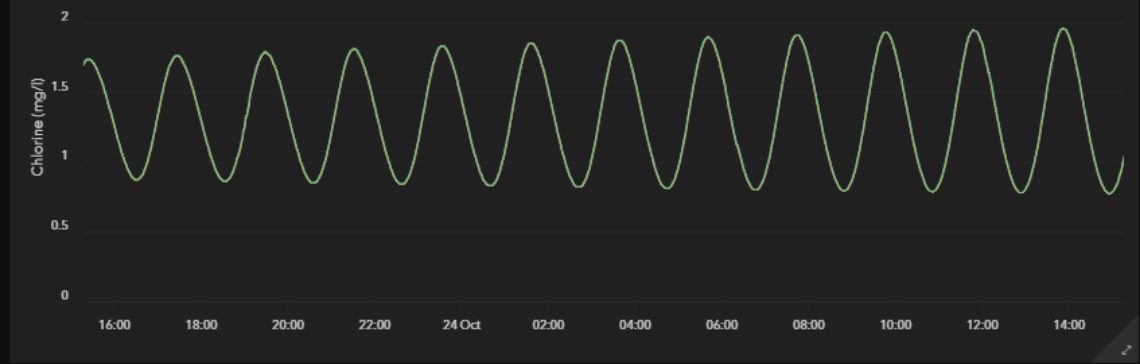
No data available

OVERVIEW
ALARMS
ANALYTICS
LIVE DATA
REMOTE CONTROL
NOTES
DEVICES
STATION MODEL
SETTINGS

Analytics

Clear all settings | Show events | Select Charts

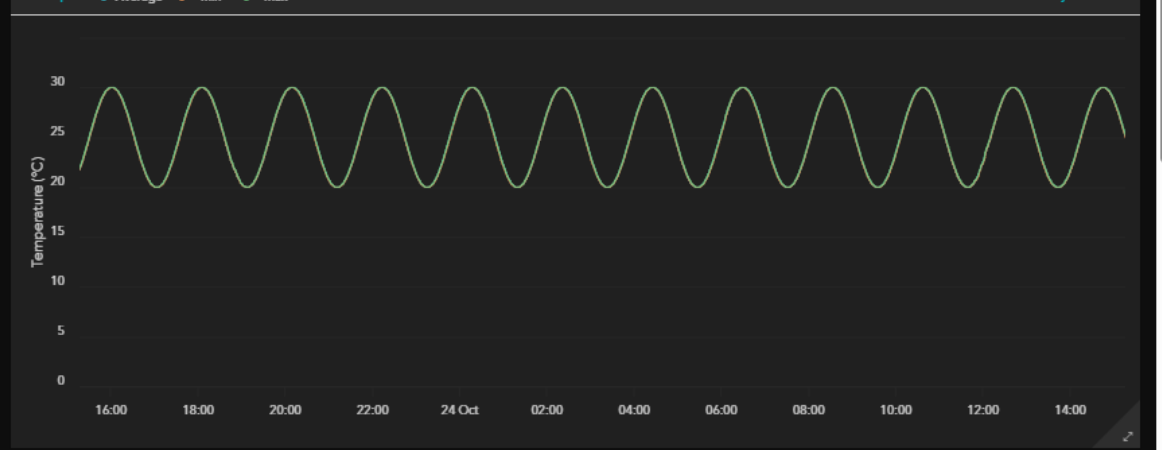
Chlorine
50m-pool - Machine 1



pH
50m-pool - Machine 1

ORP (Redox)
50m-pool - Machine 1

Temperature
50m-pool - Machine 1



Rain
Station

Event count
Station

Remote Monitoring Options

Flow meters

Chemical controllers

VSD controlled pumps

UV systems

Regenerative Media Filters

Pressure gauges

Temperature sensors

On-site electrochlorination

Remote Pump Monitoring

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Thank You