

# Wellhead to Desk: Fully automated chemical programs

The **only** accurate flow measurement  
for small pulsating flows

The **only** automated closed-loop  
control of actual dosage

Patented UCS technology  
automates everything:

1. Performing drawdowns
  2. Measuring inventory
  3. Checking pump status
  4. Adjusting dosage
- ◆ It sends scheduled reports of actual flow and inventory directly to your PC, mobile or process database
  - ◆ A secure web app is used to configure the device



## The UCS concept: Remote configuration, Local control

Secure Data Transmission  
for Chemical Rate, Level,  
Pump Operating Status

Via Cloud,  
to User's Cell,  
Tablet, Laptop

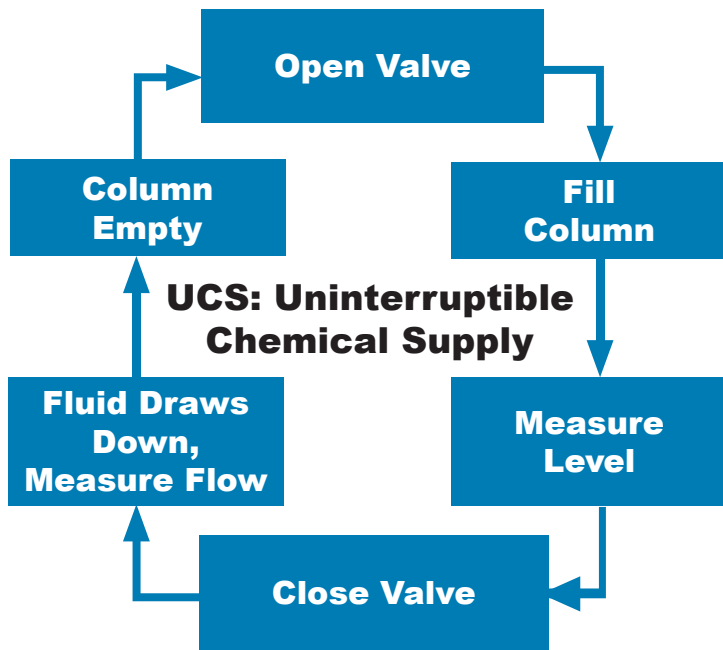
Pump control

User Monitors Data, Adjusts  
Pump Program over the Web

## Benefits

- ◆ Remote monitoring and configuration optimizes wellhead chemical injection
- ◆ Chemical paid for = chemical used. No more over-dosing or under-dosing
- ◆ Easy installation: No calibration is required; user enters the specific gravity
- ◆ Reduces operating costs, windshield time and environmental footprint while improving safety and reliability
- ◆ Custom-designed integral valve can tolerate corrosive, viscous, fouling or inhomogeneous chemicals
- ◆ Patented, proven UCS technology is already used successfully in multi-million-dollar, large-scale chemical programs

# UCS



## Industrial IoT\* done right

- ◆ **Secure microcontroller:** Unlike a single-board computer using an operating system with potential vulnerabilities, our microcontroller-based system has no internet-exposed ports or points of entry for potential hackers.
  - ◆ **Secure communications:** The UCS maintains a reserved link with the nearest cell tower and communicates with a secure server via DTLS tunnel only. Thus there is no public IP address and no vulnerability to attack. The system, which already hosts more than 200,000 devices, has been praised at IoT\* security conventions for its completeness.
  - ◆ **Minimal data usage:** The UCS remains ready to be queried or to change configuration settings at a moment's notice. At user-set intervals, it publishes measurements, as well as info on the cell connection and device status, to the Wave IoT platform. Overall data usage is highly optimized, allowing for very economical monthly data plans. All data is protected by state-of-the-art security encryption.
  - ◆ **Highly scalable:** The self-replicating web app and database host is managed by a leader in Cloud infrastructure.
- \*Internet of Things*

## Model Specifications for UCS

Area classification	Class 1 Div 2
Power	12-24 V DC, 11 mA average @ 24 V (up to 500 mA 2s peak)
Fluid connections	½" NPT female for chemical, ¼" tubing for vent
Reported data	Measured flow rate, tank level, alarm state, 4-20 signals, chemical & enclosure temperatures, cell signal quality
I/O	Cellular UDP, 2x 4-20 mA inputs for ratio dosage control, solenoid/relay drive; optional motor control
Data consumption	Typically, <1 MB/month for 4x/day reporting
Wetted parts	316 SS, PTFE diaphragm, PFA column
Operating temperature	-20 °C - +55 °C ambient (85 °C internal) (-40 °C testing underway)
Storage temperature	-20 °C to +85 °C
Flow range	0.14 - 10 GPD (50+ GPD with customization)
Measurement error	1% typical, 13"- 65" head
Dimensions	9.375" (H) x 8.0" (W) x 3.56" (D), plus 4' column
Weather protection	IP67, NEMA 4x

Notes: UCS systems are supplied standard with a calibrated column, highly accurate pressure sensor and microcontroller with proprietary software.

Your trusted partner in fluid handling and control

Visit us at [WaveControl.ca](http://WaveControl.ca)

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October 2017