



ASTLES
CONTROL SYSTEMS



CATALOGUE 2024

About Us

Since 1989, Astles Control Systems have steadily grown to be a major supplier of chemical dosing and control systems.

The main industries are two-piece beverage cans, automotive, engineering and motor components, white goods and architectural aluminium and steel.

We stock an extensive range of laboratory sensing equipment, including pH, Fluoride, Redox, RmV, turbidity, and conductivity meters, either bench meters or handheld.

In 2017, Astles joined the Scientific Digital Imaging plc (SDI) group. SDI designs and manufactures scientific and technology products for use by the life science, healthcare, astronomy, consumer manufacturing and art conservation markets through its own technology advancements, as well as through pursuing strategic, complementary acquisitions.

In this catalogue you can find out about our PC500 Washer Chemical Control System, probes, analysers, pumps, lab equipment and calibration standards.

PC500 Washer Chemical Control System

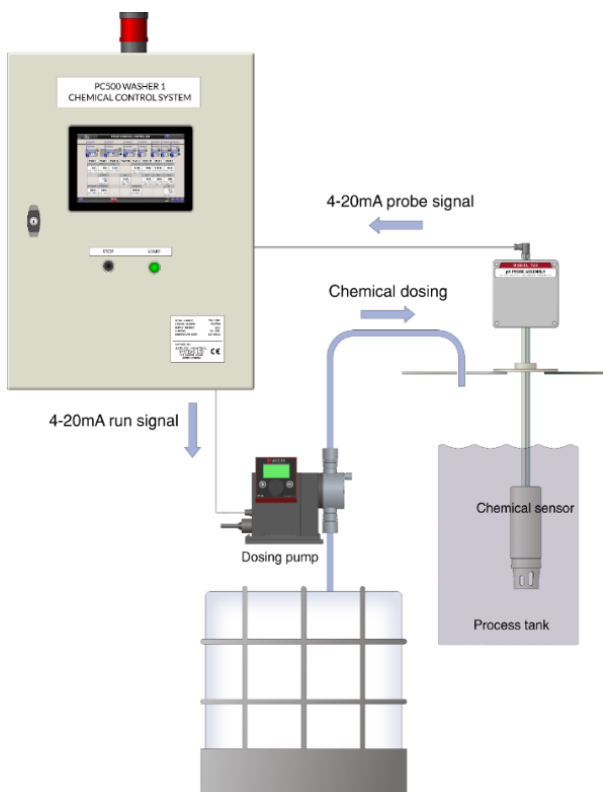
The PC500 system is a rugged microprocessor-based control system designed for use in an industrial environment. The system is rated to IP65 and all exposed parts are chemically resistant.

The scalability and flexibility of the system means that the end user can specify the system to suit their requirements. Control parameters can include:

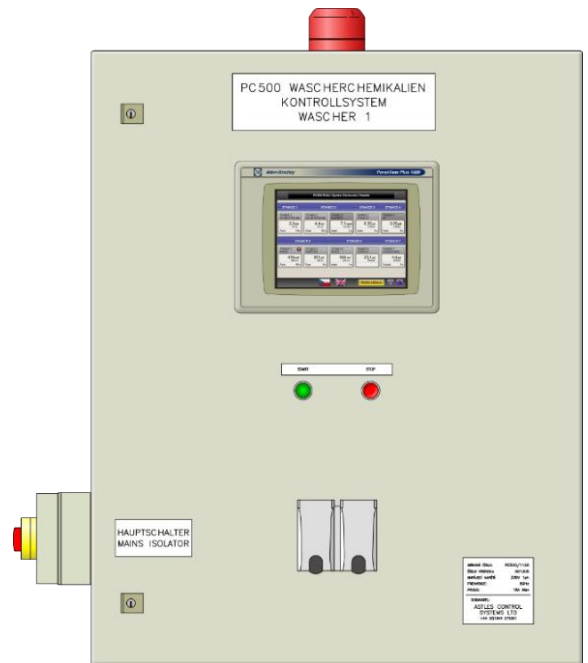
- Free Acid
- Conductivity
- Fluoride
- Redox (Chlorine dosing)
- pH
- Mobility Enhancer Dosing
- RmV (Can Count)

Other parameters can be monitored:

- Temperature
- Flow Rate
- Spray Pressure
- Day Tank Level



Typical control loop. A PC500 can have up to 64 loops.



Auto Operation

When a pump is set to auto mode, the system controls chemical dosing according to process conditions. Dosing may be controlled by can count or a measured parameter, such as pH.

Manual Operation

Manual mode gives the operator control of pump speed and may be used during sensor maintenance.

Both Auto and Manual mode are interlocked to the washer mat and dosing is inhibited when the washer stops.

Off and Pause

Pumps can be switched off or paused. Pause will automatically time-out after 20 minutes to stop the operator accidentally leaving dosing switched off.

Shot Dose

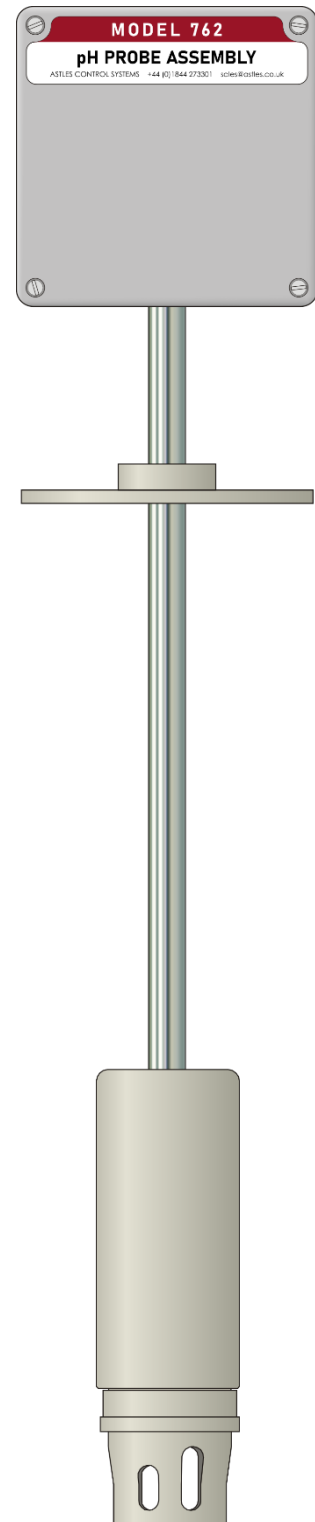
At any time, the operator may initiate a shot dose, which runs a pump at full speed for a set period of time or until the shot dose is stopped manually.

762 pH Probe

The pH800/762 pH probe assembly is a loop-powered, isolated pH sensors, with all power being supplied from the two-wire current loop connection. Isolation enables the probe to be at a potential relative to ground without affecting the integrity of the measurement. The two-wire connection eliminates the requirement of a separate supply in addition to the loop supply.

Features

- Temperature-compensated pH measurement.
- Two-wire field mounted transmitter – suitable for multiple-loop installations with a central controller.
- Isolated 4-20mA signal.
- Simple pushbutton operation.
- Tough IP65 die-cast Aluminium enclosure.
- Plug and socket connectors for easy installation and maintenance.
- Tool-free operation – no dip-switches or potentiometers.



Ordering information

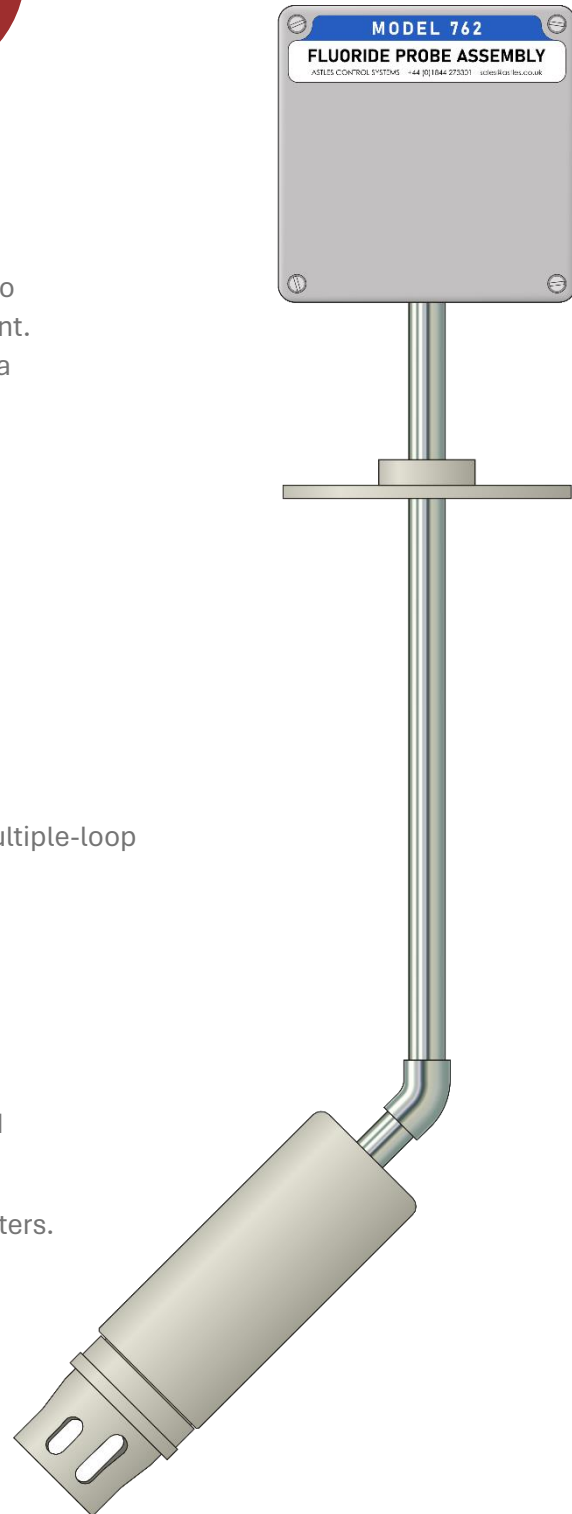
500/0034	Complete pH probe assembly: pH800, 762 holder, electrodes and 40cm wand
500/0050	Wall-mount pH800 analyser, 3m Cable: 762 holder, electrodes and 40cm wand
500/0051	Wall-mount pH800 analyser, 3m Cable: 762 holder, electrodes and 55cm wand

762 Fluoride Probe

The pH800/762 fluoride probe assembly is a loop-powered, isolated pH sensors, with all power being supplied from the two-wire current loop connection. Isolation enables the probe to be at a potential relative to ground without affecting the integrity of the measurement. The two-wire connection eliminates the requirement of a separate supply in addition to the loop supply.

Features

- Temperature-compensated measurement.
- Two-wire field mounted transmitter – suitable for multiple-loop installations with a central controller.
- Isolated 4-20mA signal.
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- Tough IP65 die-cast Aluminium enclosure.
- Plug and socket connectors for easy installation and maintenance.
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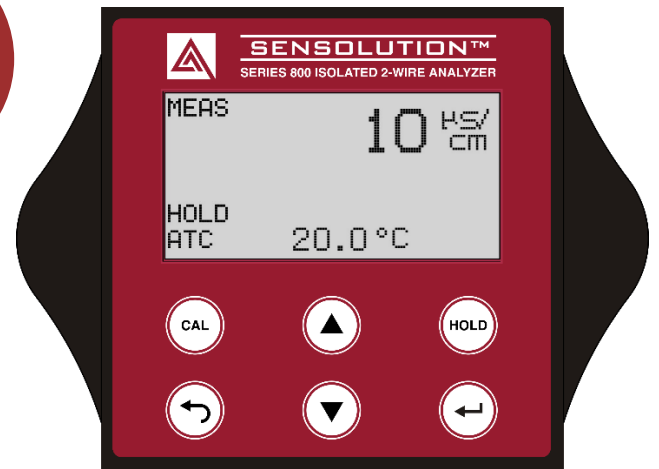
Ordering information

500/0060 Complete Fluoride probe assembly: pH800, 762 holder, electrodes and 40cm wand

500/0066 Wall-mount pH800 analyser, 3m cable: 762 holder, electrodes and 55cm wand

C800 2-wire Contacting Conductivity Analyser

The C800 is a microprocessor controlled, loop powered isolated conductivity transmitter with all power being supplied from the two-wire current loop connection. Isolation enables the contacting probe to be at a potential relative to ground without affecting the integrity of the conductivity measurement. The two-wire connection eliminates the requirement of a separate supply in addition to the loop supply voltage.

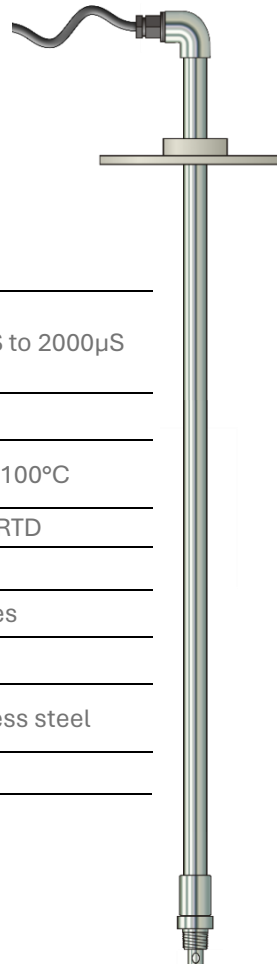


Model 300 Contacting Conductivity Sensor

The Model 300 is a loop-powered, contacting conductivity sensor. The durable stainless-steel electrode is intended for use in high temperature and pressure environments. Its rugged design enables the accurate measurement of a solutions conductivity and temperature, in environments too hostile for many contacting conductivity electrodes on the market. The probe can measure low level conductivity in temperatures ranging from 0-100°C, ideal for water treatment.

This sensor is compatible with C800 conductivity analyser.

Conductivity	Range	0.00µS to 2000µS
	Cell Constant	K=0.1
Temperature	Range	0°C to 100°C
		Pt100 RTD
Cable length		2.5m
Cable termination		Ferrules
Waterproof		Yes
Body material		Stainless steel
Probe length		80cm



Ordering information

500/0085	Sensolution C800 isolated 2-wire contacting conductivity transmitter (bare)
500/0086	Sensolution C800 isolated 2-wire contacting conductivity analyser. Sighted, hinged Al box
500/9149	Model 300 k=0.1 cm ⁻¹ Contacting Conductivity sensor with 550mm wand
500/9150	Model 300 k=0.1 cm ⁻¹ Contacting Conductivity sensor with 700mm wand
500/9151	Model 300 k=0.1 cm ⁻¹ Contacting Conductivity sensor with 1000mm wand

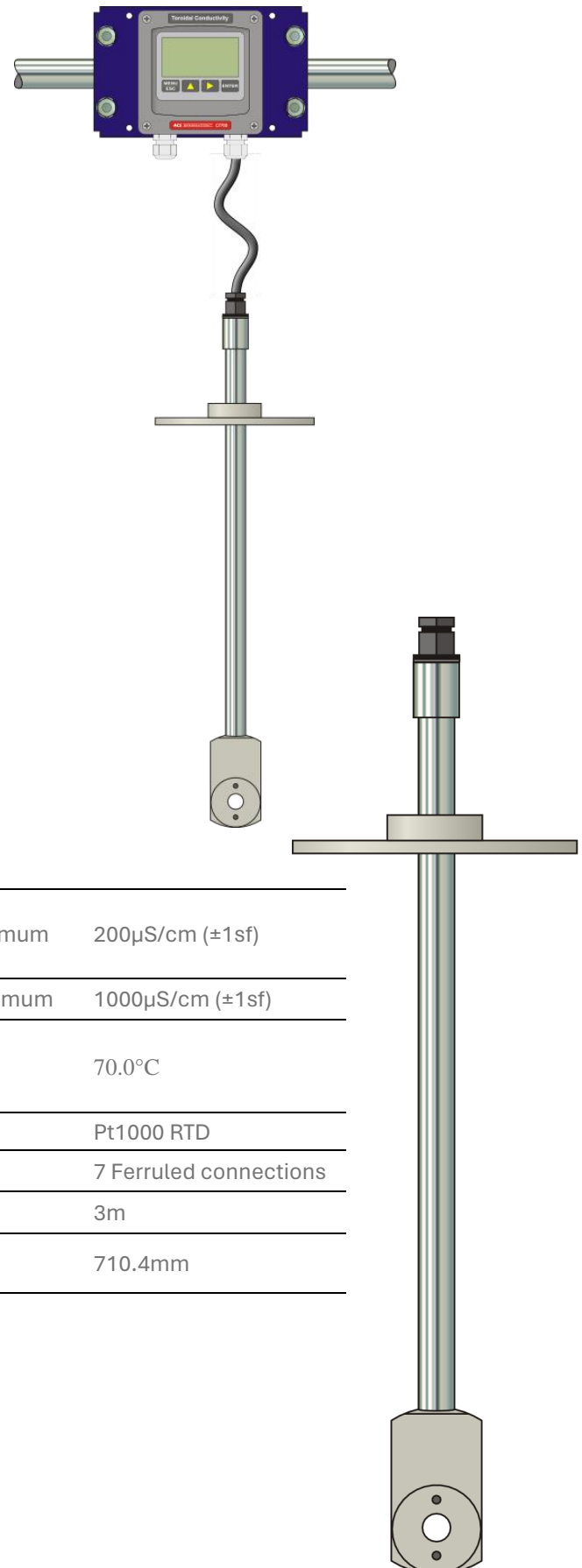
CT700 2-wire Inductive Conductivity Analyser

The CT700 is a 24V loop-powered, isolated conductivity transmitter with all power being supplied from the two-wire current loop connection. Isolation enables the probe to be at a potential relative to ground without affecting the integrity of the conductivity measurement. The two-wire connection eliminates the requirement of a separate supply in addition to the loop supply voltage.

Model 556 EC Toroidal Conductivity Sensor

The Model 556 EC toroidal conductivity probe is a large-bore polypropylene sensor, mounted on a 316 stainless steel barrel. 556 sensors are suitable for most applications up to 70°C, and can measure down to 200µS/cm.

The sensor features an integral RTD to compensate the conductivity measurement for temperature. 556 sensors are designed to be compatible with both the loop-powered (24V two-wire) CT700 and mains-powered (110V-240V) CT700M toroidal conductivity analysers.



Conductivity	Minimum	200µS/cm (±1sf)
	Maximum	1000µS/cm (±1sf)
Maximum temperature		70.0°C
Integral RTD		Pt1000 RTD
Cable termination		7 Ferruled connections
Cable length		3m
Probe length		710.4mm

Ordering information

500/0026	CT700 isolated 2-wire inductive conductivity transmitter
500/9003	Model 556 Sensolution EC Conductivity sensor with 700mm wand

Grundfos Smart Pumps

Chemistry in water treatment, water and wastewater recycling and disinfection has experienced a huge development during the last years, and this poses a challenge for today's dosing technology. More and more complex applications require intelligent dosing pumps with new drives or new control and adjustment mechanisms to simplify the operators' job.

SMART Digital dosing pumps meet these challenges. They offer state-of-the-art drive technology, new dimensions of user-comfort and intelligent flow control. These features ensure extremely reliable, cost-effective and high-precision processes at an optimum price-performance ratio.

Processes and applications

SMART Digital pumps can be used in a wide range of processes, such as:

- Disinfection
- Chemical dosing
- Biocides
- Precipitation / Flocculation
- Reverse osmosis
- pH-adjustment
- Cleaning-in-place
- Coagulation
- Filtration



DDA Pump

Application Areas

- Ground water
- Surface water
- Drinking water
- Process water
- Recreational water
- Recycle & reuse



DDC Pump

Flow Intelligence

All DDA pumps give you full control in all conditions.

- FlowControl with selective fault diagnosis
- Pressure monitoring
- Flow measurement

Service kits

Service kits are available for all pumps. They are comprehensive packages designed to provide everything needed for routine maintenance and repair of dosing and transfer pumps. These kits typically contain various components such as diaphragms, gaskets, O-rings, screws, washers, and other essential parts.



DDE Pump



DMX Pump

Ordering information

500/4250	DDA 30-4 AR-PVC/V/P
500/4615	DDA 30 Service kit
500/4243	DDC 15-4 AR-PVC/V/P
500/4611	DDC 15 Service kit
500/4228	DDE 15-4 P-PVC/VPTFE
500/4609	DDE 15 Service Kit
500/4301	DMX 221-50-10
500/4606	DMX Service kit

Lab Equipment

Free/Total Chlorine Dispenser



Thermo Scientific™ AQUAfast Free and Total Chlorine Bulk DPD Powder Dispensers and Vials are designed for high volume testing of residual chlorine in water samples. The powders dissolve quickly in the solution and are easy to mix. Each vial contains 250 counts of DPD reagent and is available for free chlorine or total chlorine analysis in the lab or field.

- Measure 0.02 to 2.00 mg/L (ppm) free chlorine or total chlorine
- Bulk powder dispensers are designed for high sample throughput – reduces the cost per test and minimizes waste compared with individually packaged reagents
- Equivalent to other widely used and recognized chemistries including AQUAfast AC4P71 free chlorine and AQUAfast AC4P72 total chlorine powder packs.
- Compatible with AQ4000 and AQ3170 colorimeters.

Portable Colorimeter



The Thermo Scientific™ AQUAfast AQ4000 measures colorimetric parameters of samples. With 65 pre-programmed methods and automatic selection of four wavelengths, it offers convenience and accuracy. The inclusion of auto-test ampoules featuring Auto-ID barcodes streamlines preparation and testing. These ampoules come pre-filled to precisely measure the sample and eliminate manual adjustments. The colorimeter reads the barcode, identifies the parameter, and initiates the test, ensuring efficient and error-free use.

Orion Star 214 Benchtop pH/ISE Meter



The Orion Star 214 meter from Thermo is a versatile and reliable benchtop pH/ISE meter designed for precise measurements in various laboratory applications. With its advanced features and user-friendly interface, it offers accurate readings and intuitive operation. Its compact design makes it suitable for limited bench space, while its durable construction ensures long-term performance. Whether in academic research, industrial testing, or environmental analysis, the Orion Star 214 meter provides dependable measurements for diverse scientific needs.

Portable Conductivity Meter



The Mettler Toledo FiveGo boasts some outstanding functions such as storage capacity for up to 200 measurements, TDS measuring mode and IP67 protection against dust and water ingress. Combined with useful features such as automatic endpoint recognition, automatic calibration, linear temperature compensation and selectable reference temperatures. Operation is simple with five self-explanatory buttons and a large, well organized display that can simultaneously show readings, temperature, endpoint criteria and various helpful icons, additionally facilitates rapid measurement and calibration.

Ordering information

AQ250F/AQ250T	Free Chlorine Dispenser/Total Chlorine Dispenser
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AC71P1/AC72P1	Free Chlorine 1x250 tests refill/ Total Chlorine 1x250 tests refill
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AQ4000	Aquafast IV Colorimeter
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STARA2140	Orion Star A214 pH/ISE Meter
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5GO-01	Five Go Portable Conductivity Meter
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LE703-IP67	MT Conductivity Electrode - Waterproof
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Buffers and Standards

pH Buffer Solution

Calibration standards for lab meters used to measure pH of liquid samples. All buffer solutions are traceable to NIST standards.

ACS Product Code	pH	Volume
910168	1.68	475ml
910104	4.01	475ml
910107	7.00	475ml
910110	10.01	475ml
500/5104	4.01	5L
500/5107	7.00	5L
500/5110	10.01	5L

Conductivity Standard Solution

Calibration standards for lab meters used to measure pH of liquid samples. All buffer solutions are traceable to NIST standards.

ACS Product Code	Conductivity $\mu\text{S}/\text{mS}$	Volume
500/9057	84 μS @25°C	500ml
500/9054	1413 μS @25°C	500ml
500/9058	12.88 mS @25°C	500ml

Fluoride Standard Solution

Calibration standards for lab meters used to measure pH of liquid samples. All buffer solutions are traceable to NIST standards.

ACS Product Code	PPM	pH
500/1005	5ppm \pm 2.5%	1.3pH \pm 0.03
500/1020	20ppm \pm 2.5%	1.3pH \pm 0.03
500/1105	5ppm \pm 2.5%	1.3pH \pm 0.03
500/1120	20ppm \pm 2.5%	1.3pH \pm 0.03

Sodium Tetrakis Solution

Sodium Tetrakis solution, used as a reducing agent during the electroplating process on the inner surface of aluminium beverage cans, enhancing their corrosion resistance and ensuring product longevity.

ACS Product Code	g/L	Volume
TTKS-01	0.225g/l Ltr	1 L

Dome Stain Solution

Dome stain is used as a quality control measure during the manufacturing process. It refers to the discoloration or staining that occurs on the inside surface of the dome portion of the can.

ACS Product Code	pH	Volume
500/5200	8 pH	5L
500/5201	9.2 pH	5L

TISAB II

Total Ionic Strength Adjustment Buffer. TISAB II is used to accurately monitor and control fluoride levels in treated water, which is essential for public health and regulatory compliance.

ACS Product Code	Volume
T21000	1L
T25000	5L

Victoria Blue Indicator Solution

Victoria blue indicator solution is used to enable precise endpoint determination during titration experiments. Its colour changes at specific pH levels to ensure accurate measurements.

ACS Product Code	Volume
VBLU-01	500ml