

ASTORIA•PACIFIC

Automated Wet-Chemistry Analyzers and Diagnostic Reagents



ASTORIA ANALYZERS



Our Company

Astoria-Pacific is committed to providing superior solutions to meet the specific analytical needs of our customers through building continuous quality relationships.

Astoria-Pacific, Inc. was established on September 26, 1990 with the purpose of maximizing laboratory efficiencies by offering automated analysis solutions. Our objective is to merge automated instrumentation and software with reagents to provide a complete solution to our customers.

We provide analytical results to the Environmental, Wine, Tobacco, Newborn Screening and various other markets utilizing a range of platforms including automated segmented flow and discrete analyzers.

Our Market Focus

Astoria-Pacific is dedicated to offering the best in analytical equipment for a variety of laboratories, such as those testing for the:

- Analysis of Water/Waste Water and Industrial effluents**
- Agricultural Analysis of Plant Tissue and Soils**
- Analysis of Nutrients in Oceanographic Samples**
- Analysis of Wine**
- Analysis of Beer**

- Analysis of Pharmaceutical applications**
- Analysis of Fertilizer**
- Analysis of Tobacco Leaf and Products**
- Analysis of Biofuels**
- Analysis of Newborn Screening Applications**

Our Team

Astoria-Pacific employs a dynamic team of skilled scientists, R&D and field service engineers, technical support specialists, QC personnel, production experts, and customer support personnel. We are focused and dedicated to our customers and are very proud of our outstanding reputation for customer service and technical support.

Astoria Analyzer



The Astoria® Analyzer brings state-of-the-art, micro-segmented flow analysis to the analytical laboratory. The system offers sub-part per billion detection and high analytical precision. Throughputs of 40 to 90 samples per hour are achievable with low dispersion and carryover characteristics. Highly reliable components are integrated into the design assuring maximum system performance. A variety of analytical chemistry cartridges utilizing micro flow technology are available. The system has been specifically designed to comply with current EPA, Standard Methods, CORESTA, ASBC, AOAC and NPDES monitoring. Astoria-Pacific also offers a broad selection of methods for numerous scientific and industrial applications.



The new 307 Detector can be configured with Photometers and/or Fluorimeters in a compact chassis.



The optional 50mm LWCC, Liquid Waveguide Capillary Cell, increases sensitivity by 5X – 10X depending on the method. Ideal for ultra-low analysis.

The Astoria Analyzer is Fast, Efficient and Easy to Use

- Capable of running up to six methods simultaneously*
- Throughput of 40 – 90 samples per hour
- Capable of sub-ppb and μM detection.
- 1mm micro-bore glass and tubing significantly reduce reagent use and chemical waste

*Depending on matrix and analyte

Powered by

FASPac™ 2

411S XYZ SAMPLER



Specifications

1. Power
 - a. Voltage Range: 90 – 260 Volts
 - b. Line Frequency: 50/60 Hertz
2. Physical Dimensions
 - a. Height: 20.0 inches (50.8 cm)
 - b. Depth: 14.7 inches (37.3 cm)
 - c. Width: 17.9 inches (45.5 cm)
 - d. Weight: 22.4 pounds (10.1 kg)

The 411S is a versatile random access sampler. Many of its features include:

- An internal pump for sample wash
- A separate standards/calibrants rack that reduces time spent on pouring standards
- The use of different sizes of sample cups and sample racks
- Compatibility with optional 412 Dilutus™, which can automatically dilute off-scale samples and allow the user to create standards/calibrants online.



412 Dilutus™, Diluter module

The Dilutus™, in conjunction with the 411S and 311 XYZ Samplers and FASPac2 software, provides for the automated dilution of off-scale samples as well as automatic preparation of calibrants/standards.

Specifications

1. Syringe Size: 5 mL
2. Power
 - a. Voltage Range: 100 – 240 Volts
 - b. Line Frequency: 50/60 Hertz
3. Physical Dimensions
 - a. Height: 10.5 inches (26.7 cm)
 - b. Depth: 7.5 inches (19.5 cm)
 - c. Width: 3 inches (42.9 cm)
 - d. Weight: 5.8 pounds (2.6 kg)

322 AUXILIARY PUMP

The 322 Auxiliary Pump is primarily used as the wash pump for the 311 XYZ Sampler. However, even if you do not have an Astoria® or Astoria2 analyzer, the 322 can be used as a standalone peristaltic pump for other uses in your laboratory.



Specifications

1. 2-Channel Pump
2. Power
 - a. Voltage Range: 15 – 24 Volts
3. Physical Dimensions
 - a. Height: 4.2 inches (10.7 cm)
 - b. Depth: 4.1 inches (10.3 cm)
 - c. Width: 4.2 inches (10.8 cm)
 - d. Weight: 1.6 pounds (0.72 kg)
4. Pump Tubing
 - a. Inlet: RED/GRN
 - b. Outlet: PUR/YEL

302D MICROPUMP, COMPUTER CONTROLLED

The 302D is a peristaltic pump with 36 to 42 pump tube positions. It can be computer controlled, allowing for the operator to adjust pump speeds as well as making use of some of the timed-events features of FASPac2.



Specifications

1. Pump Tube Channels: 36 – 42
2. Speed Control: Computer and High-Speed Button
3. Safety: Leak Detector and Emergency Shutdown
4. Power
 - a. Voltage Range: 115 – 230 Volts
 - b. Line Frequency: 50/60 Hertz
5. Physical Dimensions
 - a. Height: 9.5 inches (24 cm)
 - b. Depth: 17 inches (43 cm)
 - c. Width: 6 inches (15 cm)
 - d. Weight: 22 pounds (10 kg)

303A CARTRIDGE BASE

The 303A Cartridge Base is where the Astoria Analyzer's analytical cartridges are placed. The 303A can be fitted with heat bath controllers that have easy-to-use touch-button controls for chemistries requiring specific reaction temperatures.



Specifications

1. Capacity:
 - a. Standard Size Cartridges: 3
 - b. Custom Size Cartridges: 4 - 6
2. Power
 - a. Voltage Range: 90 – 260 Volts
 - b. Line Frequency: 50/60 Hertz
3. Physical Dimensions
 - a. Height: 7 inches (18 cm)
 - b. Depth: 17 inches (43 cm)
 - c. Width: 12 inches (30 cm)
 - d. Weight: 7.5 pounds (3.5 kg)

ANALYTICAL CARTRIDGE

Astoria-Pacific's analytical cartridges utilize micro-segmented flow technology. Methods are available for a variety of industries ranging from Agriculture to Wine. Cartridges utilize chemically inert glass and micro bore tubing to optimize analysis rates, while significantly reducing reagent usage and waste. In-line Dialysis, Distillation and UV Digestion as available upon request.



COMMON TESTS REQUESTED

Alkalinity, Total	Hardness	Potassium
Alpha Amylase	Hexavalent Chromium	P ₂ O ₅
Ammonia	Iodine	Protein
Bitterness	Iron, Total	Reducing Sugars
Beta-Glucan	Lithium	Reducing Sugars, Total
Boron	Magnesium	Riboflavin
Bromide	Niacin	Selenium
Calcium	Nicotine	Silicate
Chloride	Nitrite	Sodium
Color	Nitrate	Sulfate
Cyanide	Nitrogen, Total (Per.)	Sulfide
Diastatic Power	Nitrogen, TK	Sulfite, Free
Ethanol	Orthophosphate	Sulfite, Total
Free Amino Nitrogen	Phenol	Thiamin
Fluoride	Phosphorus, Total (Per.)	Urea
Glucose	Phosphorus (TK)	Vitamin C

Astoria Analyzer Components

307 DIGITAL DETECTOR

The 307 has been designed with flexibility built in. Key features include both photometric and fluorometric detection options, with available one- to four-channel configurations within a very compact chassis. In the 307+307 mode, up to 7 channels—6 digital + 1 analog—are available.

The fluorometric assemblies use the latest in wavelength-specific LED technology. This not only eliminates excessive heat generated by old-style halogen lamps but also eliminates the need for excitation filters.

Ensuring optimal performance, the 307's photometric detectors use the same robust technology that has been used in our highly reliable 305D and Astoria2 modules.



Specifications

1. Power
 - a. Voltage Range: 115 – 230 Volts
 - b. Line Frequency: 50/60 Hertz
2. Physical Dimensions
 - a. Height: 11.2 inches (28.6 cm)
 - b. Depth: 15.8 inches (40.0 cm)
 - c. Width: 7.4 inches (18.7 cm)
 - d. Weight: 13.5 pounds (6.1 kg)
3. Photometric Performance
 - a. Wavelength Range: 410 to 1000 nm
 - b. Flowcell: 6 or 10 mm X 1.5 mm ID
50mm LWCC (optional)
 - c. Light Source: Tungsten-Halogen
4. Fluorometric Performance
 - a. Excitation Light Source: Wavelength-specific LEDs
 - b. Emissions Wavelength: Removable filter-specific
 - c. Flowcell: 9 μ l



307 Connector Ports

OPTIONAL ANALOG DETECTORS (Plug into the IEEE Analog Input)

315 UV/Vis



309 Flame Photometer



Astoria2 Analyzer



Specifications Astoria2

1. Power
 - a. Voltage Range: 115 – 230 Volts
 - b. Line Frequency: 50/60 Hertz
2. Physical Dimensions
 - a. Height: 20 inches (51.0 cm)
 - b. Depth: 24 inches (56.0 cm)
 - c. Width: 42 inches (107 cm)
 - d. Weight: < 50 pounds (23 kg)

The two (2) channel Astoria2 combines the pump, cartridge base and two detectors into one solid unit. It utilizes the same technology as the Astoria Analyzer, but requires less bench space. Like the Astoria, the Astoria2 uses micro-Segmented Flow Analysis. All the benefits of that technology are offered:

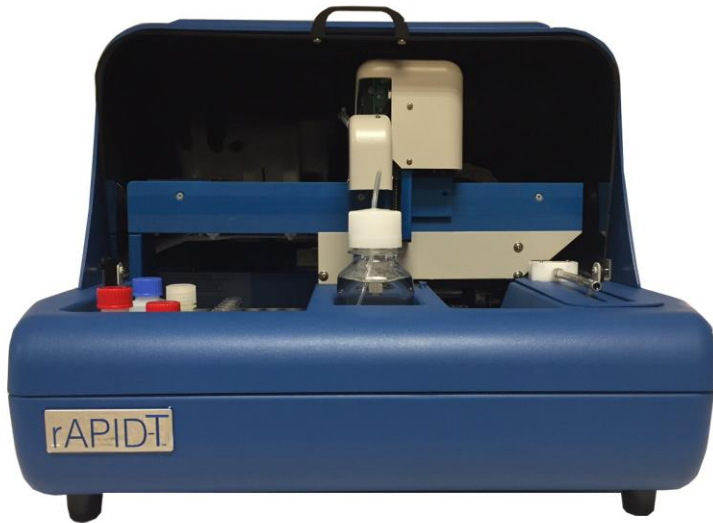
- Fast analysis rates
- Low reagent use, which is about 1/10th compared to other SFA and FIA systems
- Ultra-Low-level detection capabilities*
- Expanded calibration ranges
- In-line dialysis, in-line distillation and in-line UV digestion techniques
- The use of an optional 412 diluter module
- The use of optional fluorometric, UV and Flame photometric detectors.

*NOTE: Consider using a 50mm Liquid Waveguide Capillary Cell (LWCC) to achieve even better performance.

As the lab expands its testing parameters, the Astoria2 is fully adaptable and can be upgraded as needed. It can make use of the optional detectors and/or be expanded to a four (4) channel system by simply adding another Astoria2 module to the base unit. This flexibility allows a laboratory to accommodate for its growth over time.



rAPID-T System



Specifications

1. Syringe Volume: 500 μ L
2. Syringe Range: 2 – 450 @ 0.5 μ L increments
3. Power
 - a. Voltage Range: 115 – 230 Volts
 - b. Line Frequency: 50/60 Hertz
4. Physical Dimensions
 - a. Height: 15.5 inches (40 cm)
 - b. Depth: 20 inches (50 cm)
 - c. Width: 21 inches (53 cm)
 - d. Weight: 37 pounds (15 kg)
5. Photometric Performance
 - a. Wavelength Range: 340 - 660 nm
 - b. Number of filters: 8
 - c. Cuvette Path-length: 10 mm

The rAPID™-T system is the integration of Astoria-Pacific's easy-to-use rAPID-T software program and durable, reliable hardware. Operators can program their colorimetric applications into rAPID-T's method setup and configurations. Because of rAPID-T's open platform, operators can also adapt their system to use assay kits for Water, Wine, Food and other analyses from several manufacturers (e.g. Megazyme, Randox, Thermo-Fisher Scientific, Nitrate Elimination Company, etc.).

The rAPID-T system is compact and offers uncompromising flexibility:

- Up to 100 tests per hour or up to 200 tests per hour in rAPID-T x 2 mode
- Durable, accurate, precise and economical with 10 mm path-length cuvettes
- Open, programmable software program
- Built-in reagent cooling system and temperature-controlled reactions
- Multiple wavelengths: 340, 405, 420, 480, 505, 540, 570, 660 nm or ... custom
- Automated dilution of off-scale samples
- Automated standards/calibrants preparation from a single stock standard
- 10 reagent positions and 40 sample positions



COMMON TESTS REQUESTED

Acetic Acid	Nitrite
Alkalinity	Nitrate
Ammonia	Nitrogen by OPA
Chloride	Nitrogen, TK
Chlorine	Orthophosphate
Cyanide	Phenol
Glucose + Fructose	Phosphorus, Total (Per.)
Hexavalent Chromium	Silica
L-Malic Acid	Sulfite, Total

Astoria Software Solutions

Astoria-Pacific offers your laboratory with the tools to control and process the data from your Astoria instrumentation. Our software works in the Microsoft Windows® environment. They are CFR 21 Part 11 compliant, provide Real-Time data analysis and editing, can IMPORT/EXPORT to LIMS, and are available with PASSWORD protection with definable user levels. Database managers ensure that raw data, run files and configurations are stored properly. Built-in QC Charting options provide users with additional tools to measure system(s) performance.

FASPac™2

This powerful, unique Flow Analyzer Software Package (FASPac™) controls, collects and processes data from up to six (6) digital channels and one (1) analog channel simultaneously. Working within the Microsoft Windows® environment, FASPac offers a sophisticated graphical presentation of information and data, easily customized for your needs.

- Spreadsheet-layout provides easy data input
- Ability to recalibrate and rerun samples with or without operator intervention
- Allows samples to be added to the sample table during a run
- Allows for multiple calibration curves to be applied over expanded range
- True multitasking flexibility with Microsoft Windows® (XP, Vista, 7 pro, 8.1 pro), allowing for simultaneous use of other applications
- Real Time display of peaks and concentration results on the computer screen

rAPID™-T

The advantages of this software are numerous:

- Multiple analyses can be run with no physical changes to the system
- The operator can select what analyses to be run on each sample
- Ability to perform dilution of above-range samples and automated standards prep from a single stock standard are included
- Spreadsheet-compatible tables and graphical displays provide easy data input and navigation
- Easy-to-use software provides complete control of the system's components.

Computer Requirements (CUSTOMER TO SUPPLY COMPUTER)*:

If purchasing a computer the following specifications are recommended.

- Windows® 7 Professional or Windows® 8.1 Professional, 32/64-bit
- 2 gigahertz (GHz) or faster x86/x64 processor
- 2 gigabyte (GB) RAM (32-bit) or 4 GB RAM (64-bit)
- 100 GB available hard disk space (32-bit) or 200 GB (64-bit)
- DirectX® 9 graphics device with WDDM 1.0 or higher driver
- Standard Keyboard/Mouse

*FASPac2 and rAPID-T will function on computers with Windows® XP

Astoria and Astoria2 Analyzer Specifications

Technology	Micro-Segmented Flow Analysis
Optical System (Primary)	Digital dual beam photometer
Light Source (Lamp)	One (1) Tungsten-Halogen for one (1) reference and working channels via Fiber Optics. Two lamps are used in the six (6) channel option Astoria2 uses One (1) Tungsten-Halogen for one (1) reference and two (2) working channels. Two lamps are used in the four (4) channel option
Wavelength Range	410 – 1000 nm Interference Filters
Flowcell Options	6 or 10 mm path length, 1.5 mm ID, depending on method requirements 50 mm Liquid Waveguide Capillary Cell (LWCC)
Practical Quantitation Limit	Sub-ppb and μM detection, depending on method
Operating Channels	One 307: Up to four (4) Digital Photometric or Fluorometric Channels, plus one (1) analog port for optional detector modules Astoria2: Up to two (2) Digital Photometric Channels, plus one (1) analog* *NOTE: The Astoria2+2 option only allows for one (1) analog port
Optional Analog Detector Modules	UV Detector, Flame Photometer
Operating Space (w/o computer)	24 in (56 cm) D x 60 in (152 cm) W x 20 in (51 cm) H
Heated Reaction Capability	Ambient room temperature to 160° C (via Optional Distillation Bath)
Output	RS232
Sample Capacity	Up to 270 sample positions with continuous loading for additional samples
Average Volume of Sample Used Per Test	10 – 1000 μL , depending on method
Throughput	Up to 90 samples per hour (360 tests per hour), depending on method
Weight	Less than 60 lbs (27 kg)
Pump	Peristaltic, variable speed, computer controlled
Pump Tube Accommodation	Up to 42 Pump Tubes
On-line Dialysis Available	Yes
On-line Distillation Available	Yes
On-line UV Digestion Available	Yes
On-line Dilution Available	Yes. With optional dilutor module
Leak Detection Alarm	Yes
Expansion Capabilities	Yes. Astoria2 is expandable up to four (4) digital channels + one (1) analog The 307 can be expandable up to six (6) digital channels + one (1) analog
Optimal Laboratory Environment	Ambient Temperature: 15 - 35° C; Humidity < 85%; Dust Free
Mixing Coils	Glass (for maximum reagent compatibility)
Average Reagent Volume	$\leq 1 \text{ mL} / \text{min}$
Power Requirements	90 - 260VAC, 50 - 60 Hz, 160W
Certifications	EMC (Emissions and Immunity, EN 61326)

rAPID-T System Specifications

General, Single Module

Typical throughput	Up to 100 tests per hour
Typical reaction volume	250 μ L
Path length of cuvette	10mm
Reaction vessel	5-well cuvettes, disposable
Maximum reaction volume	500 μ L
Dimensions	21" (53cm) W x 15.5" (40cm) H x 20" (50 cm) D
Weight	37 lbs (15 kg)

Reagent and Sample Handling

Syringe	500 μ L, range 2 μ L – 450 μ L w/increments of 0.5 μ L
Probe	316 stainless steel w/liquid level sensing
Mixing	Probe oscillation, time and speed adjustable
Precision for volumes < 5 μ L	< 3% CV
Precision for volumes > 5 μ L	< 2% CV
No. of reaction cuvette places	40 w/PAUSE feature to allow operator to add more during a run
No. of reagent places	10 Total: 15 mL and 30 mL
No. of sample places	40 places for 4 mL sampler cups w/PAUSE feature to add additional samples during a run

Incubating, timing and temperature control

Reaction temperature	From ambient to 40°C Incubation is software controlled and automatically optimized
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Reading

Optical design	User-selected monochromatic or bichromatic results 8-position filter wheel
Wavelengths:	340, 405, 420, 480, 505, 540, 570, 660 or custom
Interference filters	Long life, hard coat, ion assisted deposition, ~10nm half bypass
Linear range	0.0 to 3.0 A
Photometer accuracy	\pm (1% reading + 0.005A) from 0 to 1.0 A \pm (2% reading + 0.005A) from 1.0 A to 3.0 A

Certifications

NRTL listed, CE marked
Awareness Technologies is certified under ISO 13485:2003

Astoria-Pacific

Astoria-Pacific is an international company with hundreds of systems worldwide. We are committed to excellence. By choosing Astoria-Pacific, you acquire a compact, robust, reliable analyzer and gain a relationship with the best Customer Service and Technical Support teams in the industry.

Our company is based in the beautiful Pacific Northwest of the United States of America. A mecca for many recreation enthusiasts, this area has a variety of climate regions: the Pacific Coast, temperate rainforests, central river valleys, high-mountain ranges, and deserts—all within a few hours' drive of each other. The Pacific Northwest is known for its airplane and computer product facilities. Some of the largest and most well-known corporations call the Northwest home: Costco, Eddie Bauer, Expedia, Amazon.com, Starbucks, Tully's Coffee, Lionsgate Studios, Boeing, Microsoft, Intel, and Nike just to name a few. (Source: wikitravel.org)

