ANATEL PAT700
TOTAL ORGANIC CARBON AND CONDUCTIVITY ANALYZER
Fully Compliant with Global Pharmacopeia Requirements: USP, EP, JP
LOW COST OF OWNERSHIP

TOC, conductivity and water temperature from just one analyzer

- Can be fully validated for TOC, Conductivity and Temperature to USP, EP and JP requirements

12 month service interval

- Auto-switching main and standby UV lamps
- UV Detect to ensure UV lamp is working correctly

No chemicals

- Designed specifically for pharmaceutical PW and WFI measurement, this analyzer uses just powerful UV light to oxidize the organics

No peristaltic pump

- No tubing and pump heads to replace
- PAT700 traps an aliquot for each analysis, so the measurement is stable and not affected by changes in sample pressure or flow rate

Single sensor to measure TIC and TC

- TC - TIC = TOC
- Stable measurements for >12 months

On-line and grab-sample analysis in one analyzer

- Built-in, 4-bottle grab-sample analyzer
IMPROVED COMPLIANCE

Fully ICH Q2 compliant

- Not affected by interference from ppm levels of TIC

Complete oxidation

- Fully compliant with EP 2.2.44 requirement for complete TOC oxidation through dynamic end-point detection technology

Root cause analysis support

- Excursion capture feature allows a water sample to be captured to assist root cause analysis should a TOC excursion be detected
- Built-in grab-sample analyzer for analyzing samples from other points in the water loop

21 CFR Part 11 Compliant

- Multi-level user access
- Windows credentials (Microsoft Active Directory)
- Secure .pdf file export via FTP over Ethernet
- No manual data entry – calibration standards use RFID tags to transfer lot number, expiry date and certified value directly to the PAT700
- Built-in electronic automated Calibration and System Suitability SOPs
- No manual calculations – automated Calibration and System Suitability Pass/Fail calculations
## Specifications

### TOC
- **Operating Range**: 0.5 to 2,000 ppb as Carbon
- **Display Resolution**: 0.1 ppb
- **Accuracy**: ±3 ppb or ±5%, whichever is greater
- **Repeatability**: ±0.3 ppb or ±1%, whichever is greater
- **Limit of Detection**: 0.5 ppb
- **Maximum Input Conductivity**: 0.2 μS/cm for all waters, 1.0 μS/cm for all neutral waters, 5.0 μS/cm for water with CO₂ as the sole conductive species

### Conductivity
- **Conductivity**: Range 0.05 to 150 μS/cm (@ 25°C)
- **Display Resolution**: 0.01 μS/cm
- **Conductivity Accuracy**: ±2% over full range (uncompensated)
- **Available Conductivity Reporting Modes**: Temperature compensated to 25°C, or uncompensated
- **Available Resistivity Reporting Mode**: Temperature compensated to 25°C only
- **Resistivity**: Resistivity Range 0.2 to 18 MΩ-cm (@ 25°C)
- **Display Resolution**: 0.01 over full range

### Temperature
- **Ambient Operating Range**: 10 to 40°C (50 to 104°F)
- **Measurement Accuracy**: ±0.5°C
- **Sample Water Range**: 1 to 95°C (34 to 203°F)
- **Display Resolution**: 0.1 over full range

### Physical Specs
- **UV Lamps**: 2, with UV Detect technology
- **Interface/Display**: Color touchscreen
- **Maximum Altitude**: 4,000 m (13,125 ft)
- **User I/O Wiring**: Three, ¾-inch conduit openings or quick disconnect fittings
- **Standards System**: Onboard, Automated Standards Introduction System (OASIS)
- **Dimensions**: 59.7 w X 22.9 d X 25.4 h cm (23.5 X 9 X 10 inches)
- **Weight**: 13.6 kg (30 lbs)
- **Sample Inlet Flow Rate Range**: 60 mL/min to 300 mL/min
- **Sample Inlet Pressure Range**: 10 to 100 psi (69 to 690 kPa)

### Communications
- **Analog output**: 3 x 4-20mA outputs, user configurable TOC, Conductivity (uncompensated) and Sample Temperature
- **Digital output**: 4 x digital outputs, user configurable (for alarms, etc.)
- **Digital input**: 2 x digital inputs (for remote control)

### Compliance
- **Installation Category**: II
- **Pollution Degree**: 2, IEC 61010-1
- **CE Compliance**: EN 61010-1 and EN 61326
- **Safety Rating**: ETL, conforming to UL 61010-1 and CSA 22.2 No. 61010-1
- **Enclosure Rating**: Conduit version: IP56, Quick connect version: IP46
- **Release tests,**: USP <643>, USP <645>, JP 2.59, EP 2.2.44

### New Features
- **CIP**: Selectable mode for Clean-In-Place analysis
- **Dual Stream option**: Toggle or programmable stream switching
- **Excursion sampling**: Minimum flow rate to fill excursion bottle = 160 mL/min
- **Rouge detection**: Identifies oxidation cell contamination from rouging