

We offer expert support and service to help you find the right product accessories for your water quality application. From sample conditioning to verification and validation — we've got it covered.

## Thermo Scientific Online Accessories



### Markets

- Power
- Pulp and Paper
- Chemical/  
Petrochemical

### Applications

- Reduce Temperature and Pressure of Steam Samples for Analysis
- Calibration
- Quality Control
- Quality Assurance



### The Right Tools for Your Process

#### Low Level Verification System with Dynamic Calibrator

The low level verification system uses online dynamic dilution. The key component of this system is the dynamic syringe pump, which can deliver a steady flow rate of solution or standard down to 0.1 mL per minute. The low level verification kit includes an injection port that is installed into the downstream of flow regulation.

Many monitors claim to measure in the low ppb range, but it can be difficult to verify that an online instrument is accurately reading at this low level. Part per billion standards are difficult to make and maintain, and transporting grab samples for laboratory analysis is difficult.

#### Calculations for the Expected Concentration of Standard

$$\frac{\text{Injected Standard}}{(\text{Sample} + \text{Injected Standard})} \times \text{Injected Standard} = \text{Expected Standard Concentration}$$

#### FAST QC™ Sampler

The FAST QC sampler allows for rapid sampling where no online instrumentation is present and provides troubleshooting to validate readings without disturbing online operations. Using the FAST QC sampler, operators can temporarily interrupt the flow of water to the 2100 series monitors and substitute it with samples from the FAST QC sampler. In this way, samples from other parts of the plant or validation and calibration standards can be analyzed.

#### FAST QC Sampler Features

- Compatible with all Thermo Scientific Orion 2100 series monitors
- Portable design — can be used across a fleet of instruments
- Easy to install with quick disconnect fittings
- Introduce standards or samples into the monitor for analysis



**1803 Steam Conditioner**

The 1803 steam conditioner is designed to take a high pressure steam sample (such as the process steam used in power plants, paper mills and oil refineries) and reduce the temperature and pressure down to the levels required by our online monitors. Process steam is used in many industries; it is the analysis of this steam that has made online monitors so important in the power, paper, petrochemical and other industries.

**1803 Steam Conditioner Features**

- Handles pressure up to 20,897 K Pa (3030 psi), the average process steam pressure is 6,896 K Pa (1000 psi)
- Able to reduce the temperature of the sample from 538 °C (1000 °F) to under 38 °C (100 °F)
- Purely mechanical and requires no electrical hook up, so it can be used in multiple countries regardless of the voltage requirements. It can also be used in hazardous locations without any danger of explosion
- Has a mechanical temperature shutoff valve that will trip if the temperature exceeds 40 °C (104 °F) — if a cooler fails or the cooling water becomes too hot, the valve diverts the hot sample away from the online monitor to avoid costly damage

**Specifications for the 1803 Steam Conditioner**

<b>Sample Requirement</b>	Temperatures up to 538 °C (1000 °F)
<b>Maximum Pressure</b>	20,897 K Pa (3030 psi)
<b>Panel Dimensions</b>	30.5 cm x 91.5 cm x 17 cm (12 inch x 36 inch x 6.5 inch)
<b>Material</b>	Stainless steel



**Specifications for the FAST QC Sampler**

<b>Electrical Requirements</b>	9 VDC, 9 watts
<b>Input</b>	115 VAC / 60 Hz adapter, 230 VAC / 50 Hz adapter
<b>Flow Rate</b>	40 mL/min nominal, set by pressure regulator
<b>Compatibility</b>	All 1800 and 2100 series monitors
<b>Dimensions H x W x D</b>	36.8 cm x 25.4 cm x 15.2 cm (14.5 inch x 10 inch x 6 inch)
<b>Weight</b>	4.5 kg (10 pounds)
<b>Temperature</b>	5 to 45 °C
<b>Approvals</b>	CE, CSA

**Ordering Information**

Cat. No.	Description
<b>180300</b>	1803 steam conditioner
<b>18GRAB</b>	2100 series FAST QC sampler, includes (1) x 1 liter polypropylene sample bottle, tubing, fittings, power supplies and instruction sheet
<b>18GBTL</b>	(4) x 1 liter polypropylene bottles with covers
<b>18GTBK</b>	QC sampler replacement tubing kit
<b>224329-A01</b>	Wall adapter, 115 V
<b>224330-A01</b>	Wall adapter, 230 V
<b>15DC15</b>	Dynamic calibrator, with syringe pump, syringe kits (150096 and 180096) and mounting bracket, 115 V
<b>15DC20</b>	Dynamic calibrator, 220 V
<b>216970-A01</b>	Low level verification kit, includes T-fitting and tubing

For more information or to contact your local Thermo Scientific water quality specialist, call 1-800-225-1480 or visit our website at [www.thermo.com/process](http://www.thermo.com/process).

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S-PROACC-E 0808 RevA

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