

# ORBIS BV

Innovation in cold behaviour

ORBIS  
AirSTAR CFPP

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**AirSTAR CFPP Analyzer**  
... including ColdBlock cooling unit



**AirSTAR CFPP Automator**

# ORBIS AirSTAR CFPP

The new instrument for Cold Filter Plugging Point testing  
by Orbis BV

“This is it, the heart of our new instrument.”

Everything required for the automatic CFPP test is inside this little device. It fits on our new ColdBlock cooling unit to make it a standalone CFPP tester, and, what's new in the market, it fits onto most existing CFPP or Cloud & Pour Point cooling baths, meaning labs that still do manual testing are now able to upgrade their own cooling bath to an Automatic CFPP Tester with the AirSTAR CFPP Automator.

**CFPP Pod features:**

- Integrated microprocessor controlled vacuum pump for constant -2.0 kPa vacuum pressure according to method specifications
- Laser beam for accurate sample detection
- Powercast® technology for wirelessly powering the CFPP Pod
- Integrated WiFi chip for wireless communication with Apple iPad Mini (closed circuit, not interfering with laboratory network)
- PT-100 with integrated connector for easy-click-connect
- Easy assembling and taking apart with click-and-twist configuration of all parts
- Compatible with any existing CFPP or Cloud & Pour point cooling bath.



**AirSTAR CFPP Pod**

***Still doing your tests manually?***

*Upgrade your own cooling bath to an Automatic CFPP Tester with the AirSTAR CFPP Automator!*

**What is CFPP?**

... CFPP, or the Cold Filter Plugging Point, is the lowest temperature at which a (Diesel) fuel still passes through a standardized filter, measured under conditions described in the methods ASTM D6371, EN116, EN16329, IP309, IP419 and JIS K2288.

AirSTAR CFPP is available in two versions, the Analyzer and the Automator



the Analyzer

the Automator

**The Analyzer** includes the Orbis ColdBlock cooling unit (with built-in liquid-free cooling engine) that communicates directly with the integrated iPad Mini 2 and CFPP Pod, making it an independent standalone instrument. Automatic linear and stepped cooling profiles can be easily made in the intuitive AirSTAR software on the iPad. Innovative Heat Pipe technology\* and NANotech insulation make ColdBlock extremely energy efficient, and able to reach minus 105°C.

When the Pod is placed in the ColdBlock, quick programmable cleaning cycles can be carried out in addition to thorough manual cleaning according to the method.

With a bench space of 15cm (5.9") and ?? kg weight, it is the smallest CFPP instrument on the market.

\*read more about Heat Pipe technology on page 6

The Analyzer includes:

- AirSTAR ColdBlock cooling unit + iPad mini 2
- AirSTAR CFPP Pod
- AirSTAR WiPower - Cleaning-Docking station
- Spacer cage ASTM D6371
- Spacer cage EN 16329

**The Automator** is a fully automatic self-contained CFPP tester, and can be used in combination with most existing CFPP or Cloud & Pour Point cooling baths.

When the sample temperature reaches -20°C / -35°C, lights will flash and/or signals will sound indicating the Pod needs to be taken out and put in the next temperature bath (-51°C / -69°C).

Up to 8 Pods can be controlled simultaneously within 1 AirSTAR CFPP Automator.

A Pod can either be powered wirelessly or with the supplied power adapter. When placed in the Docking station, quick programmable cleaning cycles can be carried out in addition to thorough manual cleaning according to the method.



The Automator includes:

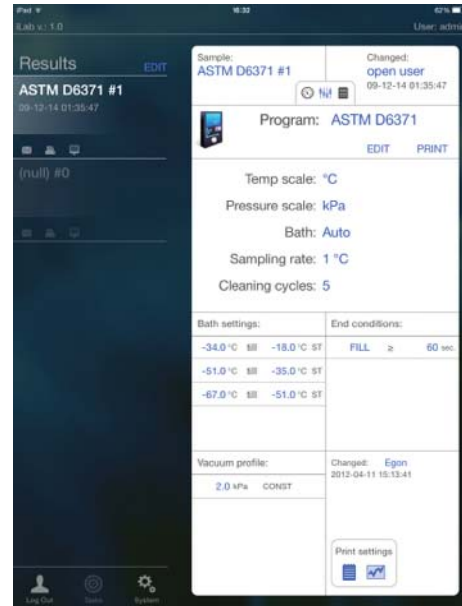
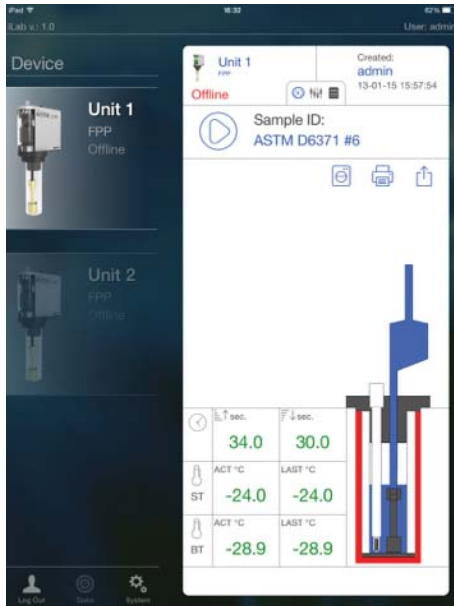
- AirSTAR CFPP Pod
- AirSTAR Cleaning-Docking station
- Apple iPad mini 2
- Apple iPad mini 2 docking station

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**ORBIS BV**

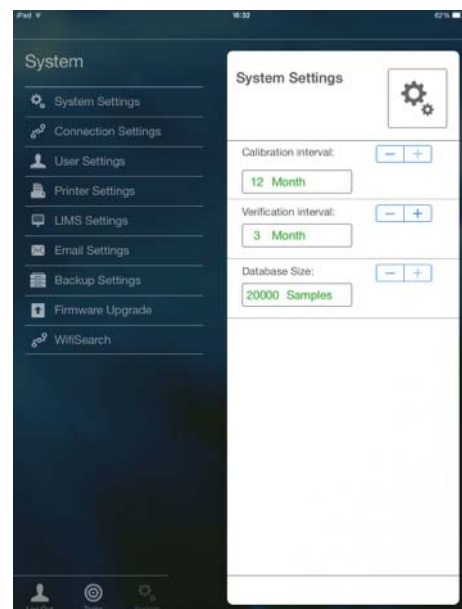
The AirSTAR CFPP software is designed for easy & flexible control. It offers extensive options for data recording and display, and many options to customize programs. Test results and progress animation are shown real-time. The intuitive design lets operators find their way through the software fast and easy. Modern versatile data handling options enable AirSTAR CFPP to fit in flexibly in any existent workflow. Software updates are always free and available in the Apple Appstore.



**Features:**

- Multiple users with variable access rights can be created by the administrator
- Unlimited\* storage capacity for results, programs, settings, user information and more
- Create unlimited amount of linear and stepped cooling profiles (only relevant with Analyzer)
- Built-in Round Robin database for monitoring repeatability and reproducibility
- Create and change vacuum profiles
- Specify end-test conditions in program
- Pre-programmed and customizable cleaning cycles
- Connection with PC (Windows operated systems) for exchanging results and settings via FTP
- Data handling options such as: send results to LIMS, make and email PDF, back-up store and restore via FTP
- Printing options such as: print PDF via AirPrint and Direct Printing on connected Kiosk printer

\*Results, programs and settings etc. only contain lightweight text. It is nearly impossible to fill the maximum capacity of the iPad Mini 2 16GB with data from AirSTAR CFPP.

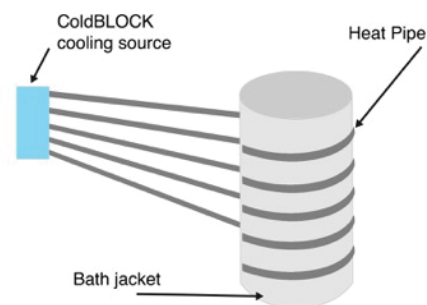




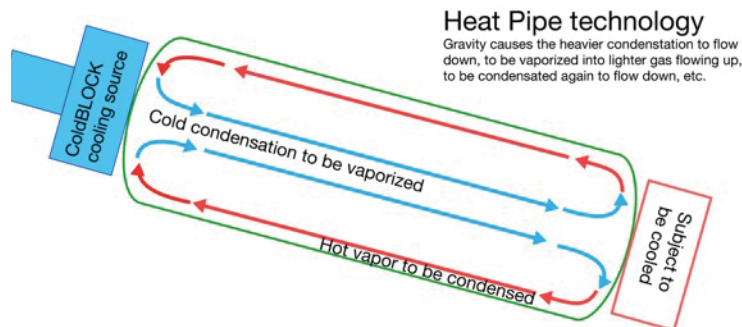


## Innovation in energy efficient cooling

The ColdBlock cooling unit is equipped with a Free Piston Stirling engine. The challenge is to conduct the cold it produces to the bath jacket and ensure a homogenous cooling of this bath jacket at the same time, without losing cooling energy. For this purpose ColdBlock is equipped with a so called Heat Pipe technology. Multiple heat pipes are wrapped around the jacket to cool it homogeneously, as according to the method requirements.



Together with NANOTECH jacket insulation and Heat Pipe technology ColdBlock is powerful while energy saving at the same time.



**Heat Pipe technology**  
Gravity causes the heavier condensation to flow down, to be vaporized into lighter gas flowing up, to be condensed again to flow down, etc.

### Technical specifications

|                          | <b>AirSTAR CFPP Analyzer</b>   | <b>AirSTAR CFPP Automator</b>   |
|--------------------------|--|---|
| Methods                  | EN 116, IP 309, IP 419, ASTM D6371, JIS K 2288, EN 16329.  | EN 116, IP 309, IP 419, ASTM D6371, JIS K 2288, EN 16329.   |
| Sample flow detection    | 2 laser beam detection barriers  | 2 laser beam detection barriers   |
| Calibration              | Built-in with customizable interval settings<br>Automatic calibration routine for sample and jacket temperatures and vacuum measurement. Temperature probe correction table. Programmable calibration frequency. | Built-in with customizable interval settings<br>Automatic calibration routine for sample temperatures and vacuum measurement. Temperature probe correction table. Programmable calibration frequency. |
| Temperature range:       | -105°C to +35°C (-175°F to 95°F)   | N/A   |
| Vacuum                   | Microprocessor controlled; constant and dynamic profiles customizable  | Microprocessor controlled; constant and dynamic profiles customizable   |
| Test/Aspiration Settings | Specimen aspiration can be started at programmable temperatures. Aspiration time intervals for fills and flow-backs are programmable   | Specimen aspiration can be started at programmable temperatures. Aspiration time intervals for fills and flow-backs are programmable  |
| Cooling profiles         | Stepped or linear cooling profiles customizable (from 1 to 60°C/h). Unlimited storage capacity.  | N/A   |
| Temperature Measurement  | °C or °F; PT 100 class A probe, automatic probe ID detection, calibration certificate standard supplied.   | °C or °F; PT 100 class A probe, automatic probe ID detection, calibration certificate standard supplied.  |
| Cleaning                 | Quick programmable cleaning cycles with 2 solvents, in addition to required cleaning according to method specifications  | Quick programmable cleaning cycles with 2 solvents, in addition to required cleaning according to method specifications   |
| Voltage                  | 100–240 VAC, 50/60 Hz  | 100–240 VAC, 50/60 Hz   |
| Power                    | 150 W  | 150 W   |
| Dimensions               | 16cm x 59cm x 35cm (W x D x H)   | CFPP Pod size: 4cm x 10,5cm x 23cm (W x D x H)  |
| Weight                   | 25 kg  | 2 kg  |

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