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FloPro-Researcher™

Global FIA Research Instrument for Zone Fluidics and SIA

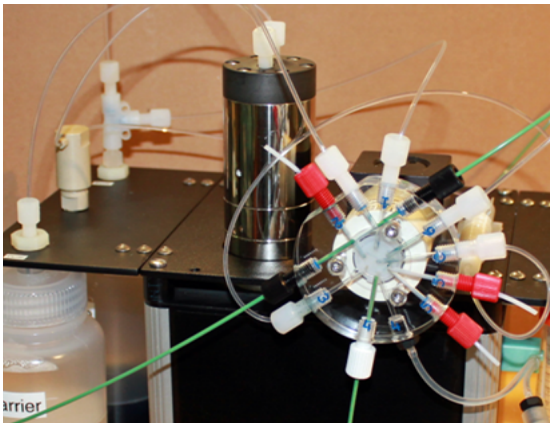
Flexible, versatile automation

The Global FIA FloPro-Researcher is a versatile SIA/ZF (Zone Fluidics) instrument ideally suited for researchers wishing to explore modern flow-based techniques. It is also a powerful platform for carrying out method development of wet chemical procedures with a spectrophotometric end point.

The instrument design lends itself to user configuration and expansion. For example, some researchers may wish to explore methods that have a fluorescence, chemiluminescence, or electrochemical end point. The FloPro-Researcher can easily be configured with add on components to accommodate a suitable detector for each of these end points.

The FloPro-Researcher is also a suitable platform for exploring sample pretreatment steps such as enrichment on a column, dilution, or even solvent extraction. Some of these unit operations require additional hardware.

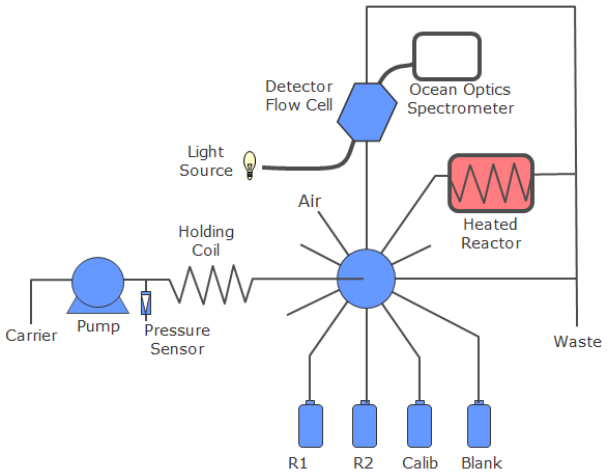
The FloPro-Researcher is designed to allow the mounting of a lab-on-valve (LOV) manifold which can be specified as an add-on accessory. Reconfiguration from SIA/ZF to SI-LOV is a straight-forward user operation



FloPro-Researcher equipped with LOV

Fluidics Engine

The fluidics manifold is equipped with a milliGAT® high precision, bi-directional, positive displacement pump, a 10-port multi-position selection valves, a heated tubular reactor and an absorbance flow cell. A compact spectrometer is coupled to a bubble-tolerant flow cell and polychromatic light source using fiber optic cables. A pressure relief valve protects the pump valve against unintended over pressurization which can lead to leakage into the pump internals. A carrier and waste reservoir as well as various reagent, standards, and blank reservoirs are coupled to the pump and valve. The plumbing of the manifold is given below.



SIA/ZF fluidics manifold

Software

The device control and data acquisition software is called FloZF and provides a convenient drag-and-drop means of setting up device control sequences or altering key parameters in via an Excel spreadsheet. Detectors are controlled by the software which is also equipped with powerful data acquisition, calibration and data visualization functions. The Excel interface also provides a powerful means of experimental design for system optimization. Startup, shutdown, and a few sample sequences are included to get the researcher started.

While it is possible for the researcher to use a Windows (Win 7 and 8 compatible) computer equipped with a WXGA screen (1280x768), type 2.0 USB port and at least 10 MB of disk space, it is recommended that Global FIA provide the computer with software installed and configured to simplify instrument setup and compatibility.

Wetted materials

The Selection valve wetted materials are stator – PPS, rotor – type Valcon M. Pump wetted materials include PPS, a Teflon, carbon and PEEK composite, Teflon piston tips and a sapphire pump chamber. The standard pump includes Tygon o-rings these are vulnerable to a few solvents. A pump with Kalrez o-rings is available. Alternatively a pump with a ceramic rotor provides additional resistance to chemical attack. The Flow cell is quartz and PEEK. Tubing is made from PFA.

Physical Specifications

Size: 230 mm x 240 mm x 250mm
Weight: 4kg
Power: 110-250VAC, 2.5 A
Communication: USB

Interfacing with external devices

Standard handshaking via TTL or contact closure digital IO

3 USB ports provide further opportunities for interfacing

Technical Point of Contact

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Pricing

1.	FloPro-Researcher	$14,125
2.	Laptop Computer with Excel	$995

Accessories and spares

1.	Fluorescence flow cell with LED excitation	$880
2.	Chemiluminescence flow cell	$880
3.	Photon counter	$2375
4.	Lab-on-valve incl valve & right angle drive	$3275
5.	Fittings kit	$450