FLUIGENT
MICROFLUIDICS MADE EASY™

FRP: FLOW-RATE PLATFORM

The Flow-Rate Platform is a unique tool to easily measure all the flow-rates in your fluidic system with the best precision

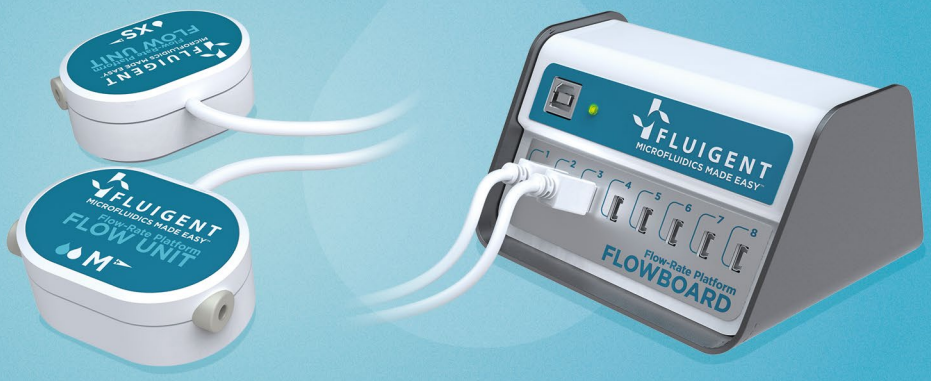
From 7.5 nl/min to 5 ml/min

Compatible with any flow controller

Easy to set-up and use

High precision

Tunable to your liquids*



** Dual calibration and scale factor*

FLOW UNIT : High-precision individual flow sensor

A bidirectionnal flow sensor interfaced with our software. Five models with different ranges are available, among which three have dual calibration (water/isopropyl alcohol).

FLOWBOARD : Communication hub

A hub managing the communication between FLUIGENT software and up to 8 FLOW UNITS of any ranges and calibrations. Computer connection and power supply with a single USB plug.

USABLE WITH ANY FLOW CONTROL SYSTEM

when you need it

The FLOW UNITS have been designed to be used close to your device with any type of flow controller from pressure regulators to syringe and peristaltic pumps to best suit to your own applications.

GET THE BEST ACCURACY

for various flow-rate ranges

The different FLOW UNIT models offer an extensive choice of flow-rate ranges to best match your required flow-rate from 7.5 nL/min to 5 mL/min.

ADAPT YOUR FLOW-RATE PLATFORM

to your own specific application

A maximum of 16 FLOW UNITS with different flow rate ranges can be used simultaneously.
A single hub (FLOWBOARD) can host up to 8 FLOW UNITS and communicate with FLUIGENT software.

CHECK YOUR EXPERIMENT

at all times

Flow-rate measurements (bidirectionnal) for all FLOW UNITS are displayed in FLUIGENT software. A special tool also computes the volumes of liquid flowed through every FLOW UNIT. The provided software enables you to check your system at a glance*.

TUNE YOUR MEASUREMENTS

for a large range of liquids

A scale factor can be added to your measurements when handling other fluids than the liquid for which the flow sensor is calibrated with. For oils and hydrocarbons, a second calibration with isopropyl alcohol is available on the FLOW UNIT models S, M and L.

*The flow-rate can also be controlled with the Flow-Rate Control Module, contact FLUIGENT for further information.

FOR ANY FURTHER INQUIRY, PLEASE CONTACT US AT:
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: @FLUIGENT

TECHNICAL SPECIFICATIONS

FLOW UNIT	XS	S	M	L	XL
Sensor inner diameter	25 µm	150 µm	430 µm	1.0 mm	1.8 mm
Maximum pressure	200 bar	200 bar	100 bar	12 bar	5 bar
Wetted materials	PEEK & Quartz Glass	PEEK & Quartz Glass	PEEK & Borosilicate Glass	PEEK & Borosilicate Glass	PEEK & Borosilicate Glass
Calibrated Media	Water	Water	Water	Water	Water
		IPA	IPA	IPA	
Range	0±1.5 µL/min	0±7 µL/min	0±80 µL/min	0±1 mL/min	0±5 mL/min
		0±70 µL/min	0±500 µL/min	0±10 mL/min	
Accuracy (m.v. = measured value) Accuracy also applies to negative values	10% m.v. above 75 nL/min	5% m.v. above 0.42 µL/min	5% m.v. above 2.4 µL/min	5% m.v. above 0.04 mL/min	5% m.v. above 0.2 mL/min
		20% m.v. above 4.2 µL/min	20% m.v. above 25 µL/min	20% m.v. above 0.5 mL/min	
	7.5 nL/min below 75 nL/min	21 nL/min below 0.42 µL/min	0.12 µL/min below 2.4 µL/min	1.5 µL/min below 0.04 mL/min	10 µL/min below 0,2 mL/min
		210 nL/min below 4.2 µL/min	5 µL/min below 25 µL/min	100 µL /min below 0.5 mL/min	

FLOW-RATE MEASUREMENTS

The flow sensors in the FLOW UNITS include 2 different parts:

- A micro heater providing a minimal amount of heat (<1°C) to the medium monitored (no effect on cells)
- 2 temperature sensors, located on both sides of the heater, detecting temperature variation.

The flow-rate is calculated based on the spread of heat, information which is directly related to the flow-rate.

SOME APPLICATIONS FOR THE FLOW-RATE PLATFORM

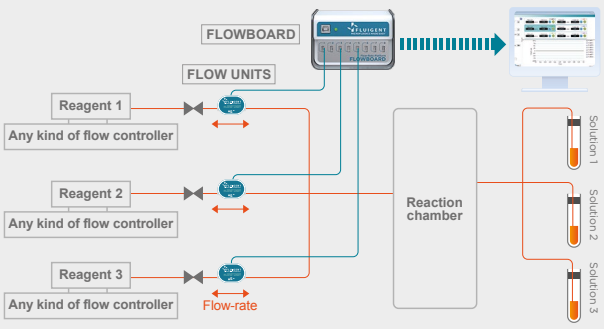
- **Droplets**
- **Cell analysis**
- **Organ on chip**
- **Biological applications**
- **Rheology studies**
- **Chemical synthesis**

When combined with our pressure controller (MFCS™-EZ), the FRP will allow you to control flow-rates with all the benefits of pressure actuation thanks to the Flow-Rate Control Module.

MEASUREMENT ONLY

Different liquids may be introduced simultaneously or individually into a reaction system. The flow rates may be displayed as well as saved (in CSV format) by the operating software, the FRP-Soft Front Panel (included).

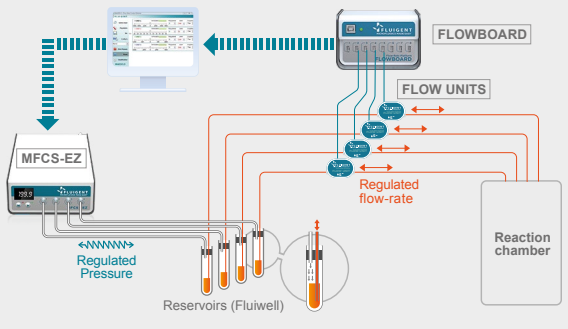
- Chemical synthesis
- Kinetic measurements
- Nanoparticles nucleation
- Solubility diagrams
- Biological analysis



MEASUREMENT AND CONTROL

Liquids may be introduced to the fluidic system by the MFCS™-EZ while maintaining control of the flow-rates. The measured flow-rates and pressures may be monitored in the MEASFLO™ and stored for future analysis.

- Cell analysis
- Droplet generation
- Biological analysis
- Beads manipulation
- Chemical analysis



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