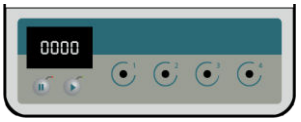
DATASHEET

MFCS™-EZ



Microfluidic Flow Control System

INTRODUCTION

The **MFCS™-EZ** is a 4-channel microfluidic flow controller, customizable with different pressure ranges and dedicated for **high precision operations** in microfluidic experiments. By using the patented **FASTAB™** technology, the **MFCS™-EZ** generates a **constant pressure-driven flow rate** that allows for reliable and repeatable experiments.

Possibility to integrate a pressure pump

Easy to use

Patented technology
reliable and reproducible results

Compact

Intuitive software
including SDK for customized applications

SOFTWARE COMPATIBILITY



The **MFCS™-EZ** is compatible with **Fluigent's** newest software applications:

- **OxyGEN**: Complete interface to easily control, monitor, record data and automate time based protocols for all Fluigent instruments
- **Software Development Kit**: Integrate MFCS™-EZ seamlessly in existing application. Available in C++, Labview, Matlab, Python, etc.

SPECIFICATIONS

Hardware specifications		
Dimensions L*W*H	160 * 230 * 63 mm	
Weight	2.0 kg (4.4 lbs)	
Output connectors	Any range from -345 to 2000 mbar	0 to 7000 mbar range
	Female luer lock	4mm OD tube connectors
Chemical compatibility		
Gas compatibility	Dry, oil-free gas, air (N_2, O_2, CO_2), any non corrosive or non explosive gas	
Liquid compatibility	Aqueous solvent, oil, organic solvent, biological sample	
Software compatibility		
Fluigent software	OxyGEN	
	Software Development Kit (SDK)	
Technical specifications		
Output Pressure Stability	Highly monodispersed droplet size - No oscillation	
System Settling time	No transitory regime - Reagent savings - Stop-flows	
Volumes	Wide range of volume can be controlled - No compromise between volume and stability	
Flexibility	Any mix or pressure ranges are available, even on one MFCS™-EZ - Highly customizable	

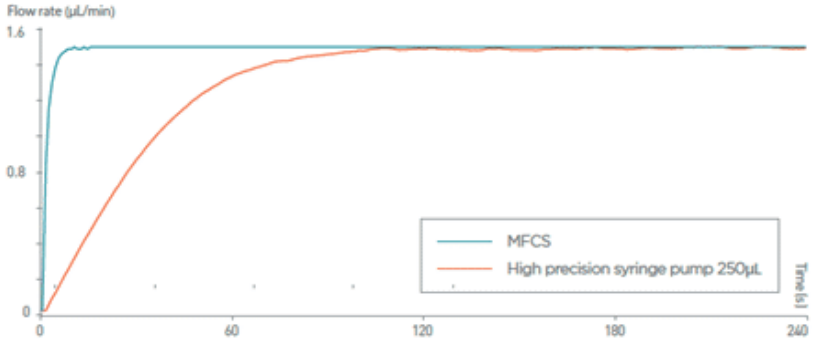
PRESSURE RANGES

Product name	Pressure range	Ring Color **	Power Consumption	Part Number
	-800 to 0 mbar (-11,6 to 0 psi) *			EZ-80800001
	0 to 345 mbar (0 to 5,00 psi)			EZ-00345001
	0 to 1000 mbar (0 to 14,50 psi)			EZ-01000001
	0 to 2000 mbar (0 to 29,01 psi)			EZ-01000002
	0 to 7000 mbar (0 to 101,5 psi)	NA		EZ-07000001
MFCS™-EZ Base	System Base -800 to 1000 mbar	NA	None	EZ-11000001
	System Base 2000 to 7000 mbar	NA	None	EZ-17000001

** For vacuum channels, to prevent any liquid from entering the device, a backflow filter or liquid trap reservoir use is recommanded*

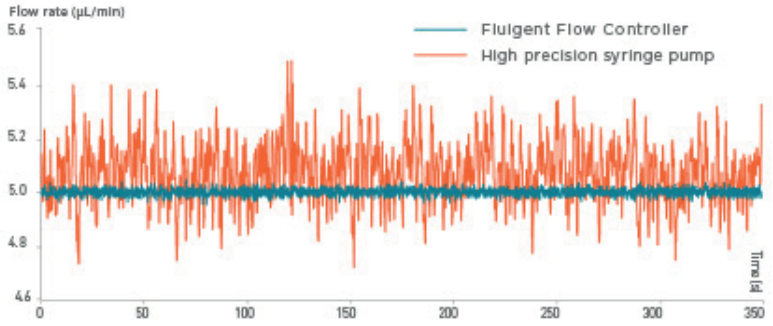
*** The ring color on the pressure outlet indicates the channel pressure range.*

RESPONSE TIME



FLUIGENT Technology allows to obtain a fast flow rate response over the time . With a **short settling time** and **quick pressurization of systems**. Compared to syring pumps, **MFCS™-EZ** allows to save experimental time, precious samples and expensive reagents with significantly **shorter response times compared to syringe pumps**.

PRESSURE STABILITY



The **FASTAB™** technology allows to have a **pulseless flow** when manipulating fluids at the sub-microliter scale compared to syringe, peristaltic or piston pumps. For basic microfluidcs experiments such as microdroplet generation, droplet size and frequency are directly linked to the flow rates of the continuous and dispersed phases. Flow rate stability is critical for having **repeatable and monodispersed droplets**. Pressure pumps provide **a more stable flow profile** leading to better experimental data.