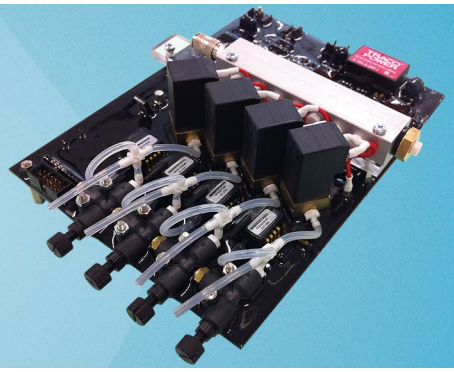
FLUIGENT
MICROFLUIDICS MADE EASY™

# MICROFLUIDIC FLOW MANAGER UNIT
# P-OEM MODULE

**The Microfluidic Flow Manager Unit P-OEM series offers excellent response time, pulseless and highly stable flow conditions for industrial precision microfluidic applications in replacement to conventional syringe pumps or peristaltic pumps.**



The multi-channel design is highly compact, ranging from 1 to 4 channels for the P-OEM series and from 5 to 8 channels for the PL-OEM series. Since fluids are not in contact with the instrument, there is no routine cleaning and contamination is drastically reduced.

Pos/Neg pressure ranges can be applied on different channels of the same P/PL-OEM module.

The optional advanced multi-channel Flow-Rate Control Module Software combined with the Flow Sensor Unit device makes it possible to have a full control on flow-rates in any coupled multi-channel configuration, while keeping the benefits of pressure actuation.

The flow settling time is drastically reduced (<1sec) in both single or multi-channel configurations, enabling significant reagent cost-savings and time-saving.

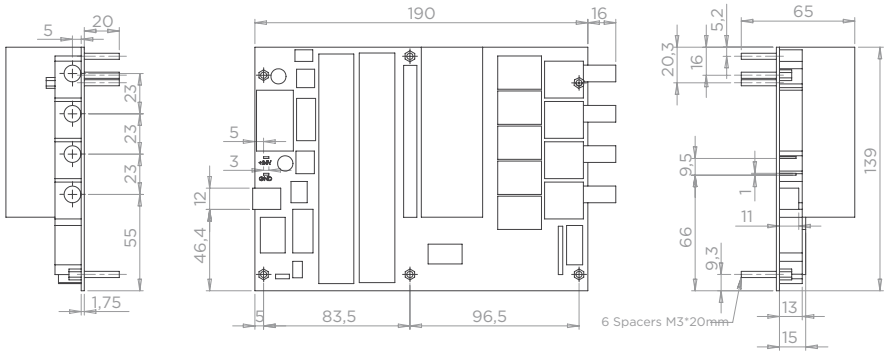
The P-OEM Module design is cost-effective and it relies on the patented and field-tested pressure-based Fastab™ technology.

## APPLICATIONS & MARKETS

- Drop-based microfluidics
- Drug discovery
- Drug encapsulation
- DNA analysis
- Organ-on-chip
- Cell culture
- Single cells
- Emulsions (cosmetics, foods, ...)
- Micro-reaction technology
- Rheology
- and many more

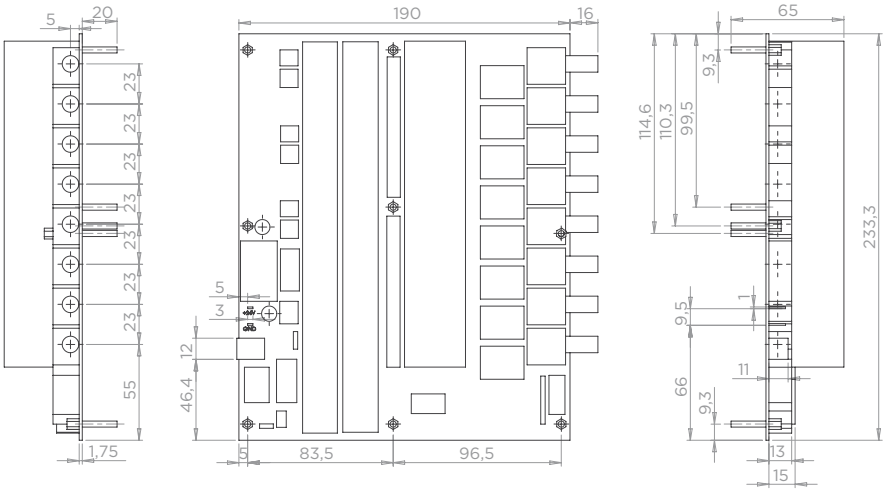
## DIMENSIONS OF THE P-OEM MODULE (from 1 to 4 independent channels)

All dimensions in mm.

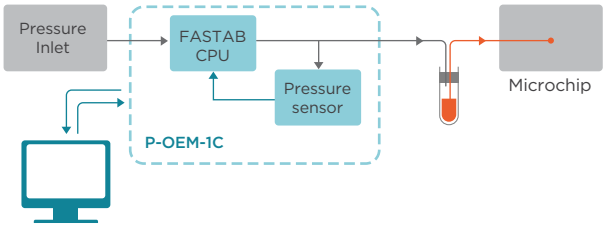



## DIMENSIONS OF THE PL-OEM MODULE (from 5 to 8 independent channels)

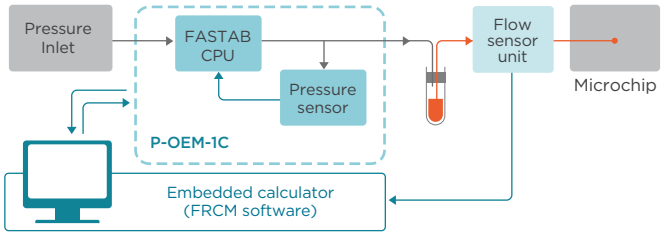
All dimensions in mm.



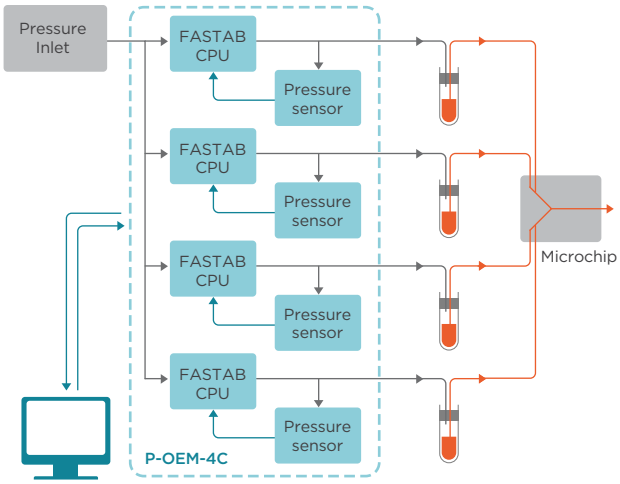
## Case 1 : SINGLE CHANNEL – NO FLOW-RATE CONTROL



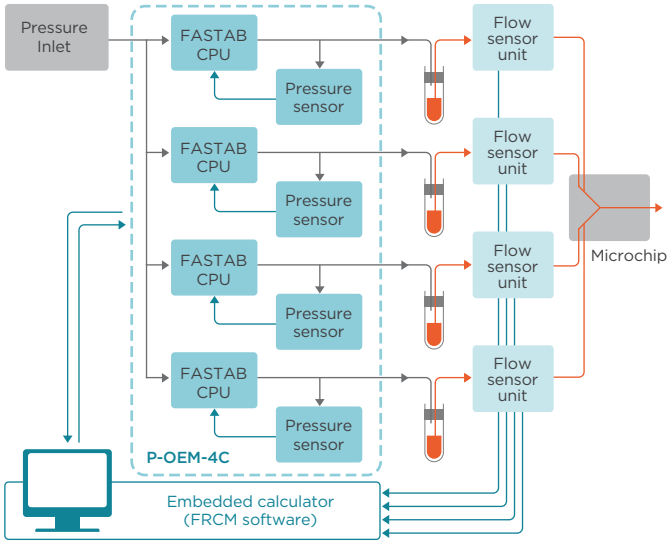

## Case 2 : SINGLE CHANNEL – WITH FLOW-RATE CONTROL




## Case 3 : MULTI CHANNELS – NO FLOW-RATE CONTROL




## Case 4 : MULTI CHANNELS – WITH FLOW-RATE CONTROL




## Pressure control performances

**Pressure ranges :**

- 0-0.4 psi[1]
- 0-1 psi[1]
- 0-5 psi[1]
- 0-15 psi[1]
- 0-100 psi

**Pressure sensor resolution :** 0.03% Full Scale

**Settling time :** 100 ms[2]

## Pneumatic interface

**Input pressure** requirements depend on system characteristics (number of units, pressure range, positive or negative pressure...)

**Neutral gaz, oil free, dry**

**Speedfit® connectors**

## Electrical & mechanical characteristics

**Power input :** 24 VDC

**Current input :** P-OEM : 0.5A / PL-OEM : 1A

**Electrical connector :** screw terminals

**Protocol :** USB[3]

**Electrical connector :** screw terminals

## Flow-rate control performances (with optional Flow Sensor Unit & optional Flow Rate Control Module software)

**Flow-rate ranges :**

- 0 to ±1.5 µl/min
- 0 to ±7 µl/min
- 0 to ±50 µl/min
- 0 to ±1 ml/min
- 0 to ±5 ml/min

**Flow-rate stability:** 0.2% CV

**Settling time[4]:** <1s

**Self assessment** of the fluidic system

**Self-compensation** of drifts due to environmental variations (temperature, hydrodynamic pressure, partial clogging,...)

## External monitoring

**Pressure** control and monitoring

**Flow-rate** control and monitoring[5]
Multi-channel flow rate control with any level of channel coupling

**Liquid temperature** monitoring[5]

**High rate data logging** (100 ms)

**Capability to customize the fluidic process control**
for identification of different events (bubble detection, clogging detection, temperature drift)

**External device synchronization**

*1 - Negative pressure available. Furthermore, positive & negative pressure can be applied on different channels of the same P/PL-OEM module*

*2 - Settling time is output volume dependent*

*3 - Other protocols RS485 based available on request*

*4 - Settling time is output volume dependent*

*5 - Available with Flow sensor unit*