



FLUIGENT PRESSURE UNIT INLINE PRESSURE SENSOR User Manual

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PRESSURE UNIT INLINE PRESSURE SENSOR

PRECAUTIONS

Aria is a perfusion system that automates perfusion or timed injection protocols. It allows for the sequential delivery of up to 10 different solutions at the desired flow rate into a microfluidic chip, perfusion chamber, or petri dish.

Do not open the PRESSURE UNIT device. Please refer all service issues to our Support department (support@fluigent.com)

Prevent any objects or liquid from entering the PRESSURE UNIT. This may cause a short circuit or other malfunction. Failing to follow these instructions may:

- Expose the user to direct current/voltage if the device is powered. This may lead to damages.
- Void device's warranty
- Discharge our company from any liability regarding physical or device damages.

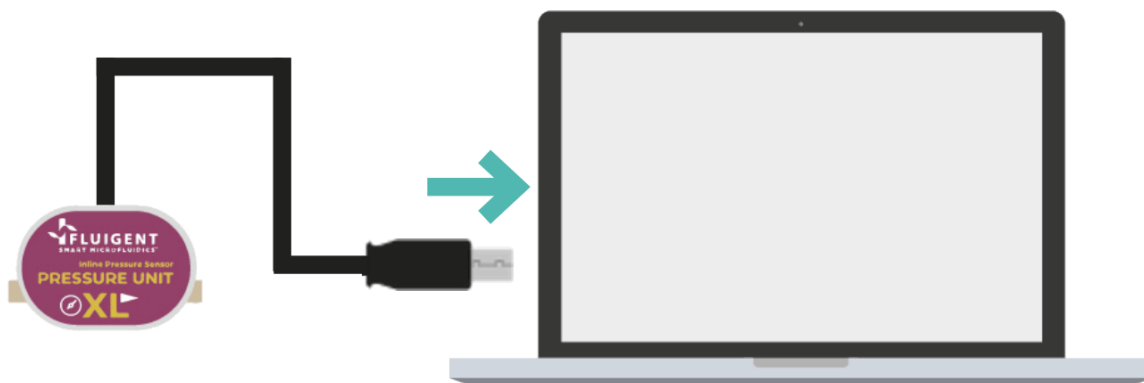
Place the product in a stable location with a level surface and good support.

If using the PRESSURE UNIT with other flow control systems than Fluigent pressure controllers, please check that the pressure in your fluidic system does not exceed the maximum pressure of the sensor being used.

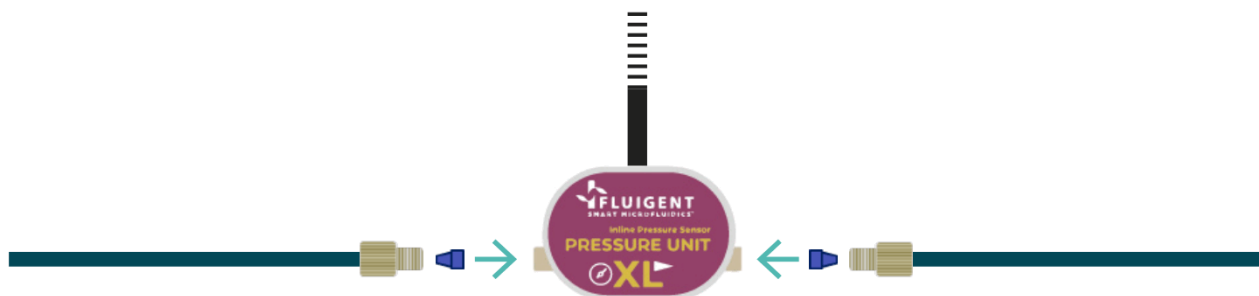
Ensure to connect the PRESSURE UNIT to the PC before launching the software. Make sure to properly clean the fluidic path and disconnect the device from the PC to remove the power supply.

QUICK START GUIDE

- Plug the PRESSURE UNIT Inline pressure sensor into the computer using a USB connection.

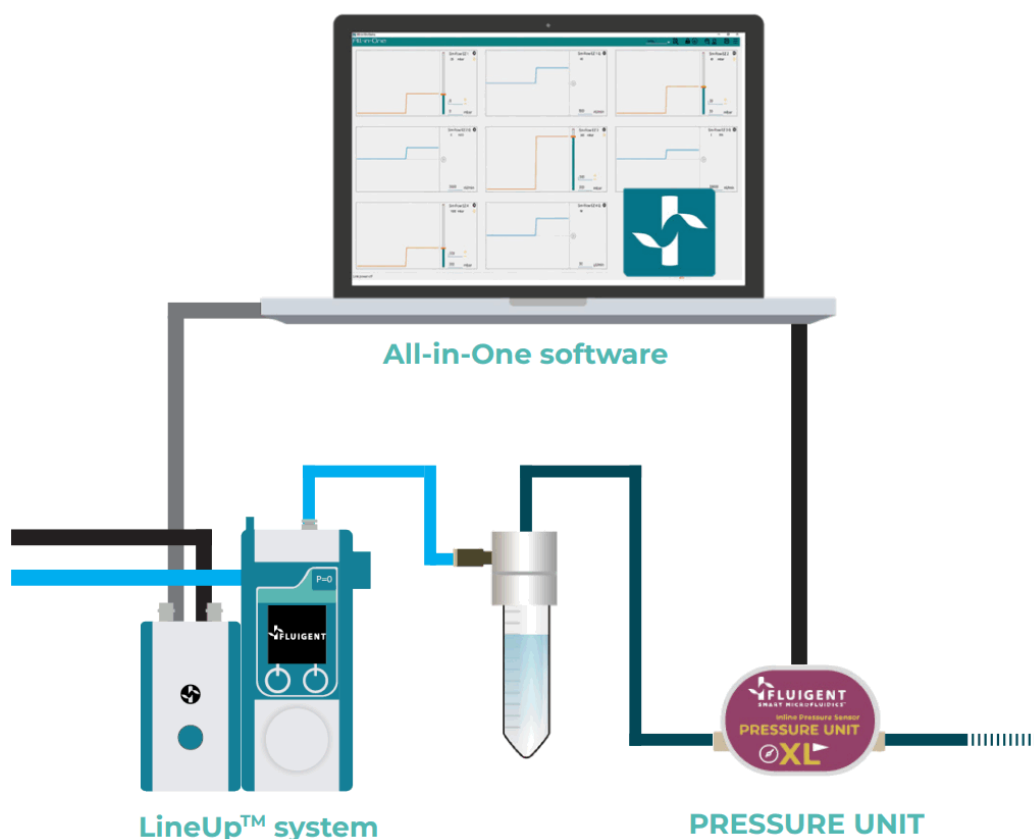


- Using the provided connections and tubing kit provided by Fluigent, connect the PRESSURE UNIT into the fluidic path.



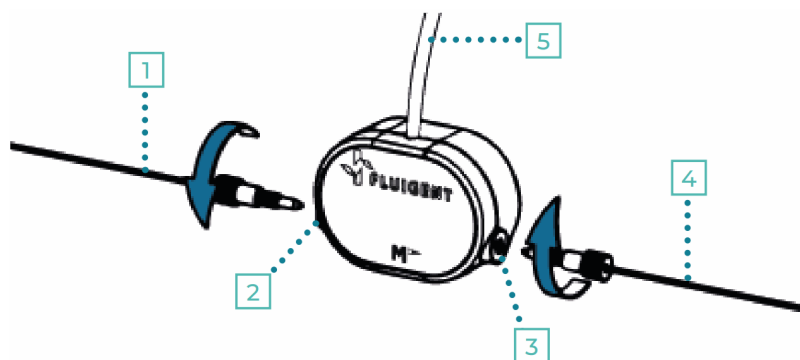
Note: The fluid can flow following the direction of the arrow indicated on the PRESSURE UNIT or in the opposite direction. As the sensor measures pressure potential, it can be set in any direction without affecting values.

- Monitor the Fluigent pressure controllers using LineUp™ local control or using Fluigent dedicated software on a computer, and get the measured pressure in the fluidic path by the PRESSURE UNIT directly on the Fluigent All-in-One software interface.



PRODUCT OVERVIEW

The PRESSURE UNIT is a stand-alone pressure sensor allowing a fast and accurate measure of the pressure applied in a fluidic path. The product range can detect values from 69 bar (1 psi) to 7000 bar (100 psi). The sensor can be directly plugged into a PC with a USB connection and displayed live the measurement on the Fluigent All-in-One software interface. The users can output this value for custom software applications using the Software Development Kit.



1. Input tubing to connect to the sensor inlet
2. Sensor inlet screw the connection to the port
3. Sensor outlet screw the connection to the port
4. Outlet tubing to connect to the sensor outlet
5. USB cable to connect to the PC USB port

SPECIFICATIONS

Technical specifications			
Measurement sampling	40 ms	40 ms	40 ms
Internal volume	22 μ L	22 μ L	22 μ L
Compensated temperature range	0 to 50°C	0 to 50°C	0 to 50°C
Connection fittings	1/4" -28 Flat bottom	1/4" -28 Flat bottom	1/4" -28 Flat bottom
Recommended tubing	1/16" OD	1/16" OD	1/16" OD
Dimensions	50 x 30 x 20 mm	50 x 30 x 20 mm	50 x 30 x 20 mm
Material	PEEK, EPDM, Silicium	PEEK, EPDM, Silicium	PEEK, EPDM, Silicium
Maximum operating altitude	Up to 2000 m	Up to 2000 m	Up to 2000 m
Maximum relative humidity	80% (0°C to 31°C) 50% (until 50°C)	80% (0°C to 31°C) 50% (until 50°C)	80% (0°C to 31°C) 50% (until 50°C)
Electrical specifications			
Voltage range (Direct current)	5V	S V	S V
Maximal power	10 mW — —	10 mW — —	10 mW — —

Software compatibility: The PRESSURE UNIT sensor is compatible with Fluigent All-in-one software to display the value measured in real-time, or with the Software Development Kit to output the measured value in the custom software application. Download that software using the Fluigent Software Installer downloadable from the website, or provided USB stick.

Pressure range			
Product range	S	M	XL
Part Number	EIPS345	EIPS1000	EIPS7000
Pressure range	69 bar 345 bar	1000 bar	2000bar / 7000bar
	1 psi 5 psi	15 psi	30 psi /100 psi
Pressure mini-max	-345 to + 345 bar	-1000 to + 1000	-1000 to +7000 bar
Max overpressure	1380 bar	3100 bar	13800 bar
	20 psi	45 psi	200 psi
Accuracy means % of max range)	2 to 3 bar 0.6% typ. to 0.9%	10 to 20 bar 1.0% typ. to	2.0% 16 to 40 bar 0.3% typ. to 0.6%
Zero shift	6.9 bar (2% span)	10 bar (1% span)	70 bar (1% span)
Repeatability / Hysteresis	1.4 bar (0.4% span)	2.0 bar (0.2% span)	14 bar (0.2% span)

The PRESSURE UNIT is available in a range of three models (S, M, and XL)

To benefit from the most accurate measurement of the PRESSURE UNIT Inline pressure sensor, please refer to the specification table above.

Do not exceed the pressure value limits while using a specific range.



WARRANTY TERMS

What this warranty covers

This warranty is granted by Fluigent and applies in all countries. The Fluigent product is guaranteed for one year from the date of delivery at the laboratory against defects in materials and workmanship. If found to be defective within the warranty period, the Fluigent product will be repaired or replaced free of charge.

What this warranty does not cover

This warranty does not cover routine maintenance, or damage resulting from the failure to maintain the product in accordance with instructions provided by Fluigent.

This warranty also does not cover damage that arises from accidental or intentional misuse or abuse, alteration or customization, or repairs by unauthorized persons.

How to get service




If there is a problem, please contact the Fluigent sales office from where one purchased the product(s). Arrange a mutually convenient time for the Fluigent service representative to discuss and find a solution to fix the issue. Repairs will be made remotely whenever possible. If more action is needed, the system will need to be sent back to Fluigent offices (for no additional cost, only if it is under warranty).

Warranty conditions

Do not open the PRESSURE UNIT (opened devices will not be charged by customer support)
Do not use cables and power supplies other than the one provided by Fluigent Prevent foreign objects or liquids from entering the device
Do not place the product in an unstable location
Respect the temperature compatibility (from 5°C to 40°C)
For positive ranges of pressure, please do not apply the above values indicated in the specifications
For negative ranges of pressure, please do not apply any positive pressure
Use a filtered (<10µm) and dried air supply
Prevent heavy objects from falling on the device
Prevent any corrosive liquid from coming in contact with the device
For questions about specific uses, please contact the Fluigent support team at support@fluigent.com

TECHNICAL SUPPORT

Any questions? E-mail us at: support@fluigent.com
Or call our technical support team directly

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For a fully detailed FAQ for all Fluigent products, please visit:

 <http://www.fluigent.com/faqs/>

Interested in Fluigent products?

To view the complete Fluigent product line and application notes:

 <http://www.fluigent.com>

For commercial requests, please e-mail:

 contact@fluigent.com or your local office

For tutorial videos about Fluigent products, please visit Fluigent on YouTube





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VERSION FEB. 2021



Documents / Resources

	<p>FLUIGENT PRESSURE UNIT INLINE PRESSURE SENSOR [pdf] User Manual PRESSURE UNIT, PRESSURE SENSOR, SENSOR, INLINE SENSOR</p>
	<p>FLUIGENT Pressure Unit Inline Pressure Sensor [pdf] User Manual Pressure Unit Inline Pressure Sensor, Pressure Unit, Inline Pressure Sensor, Pressure Sensor, Sensor</p>

References

- [Smart Microfluidics - Fluigent](#)
- [Smart Microfluidics - Fluigent](#)
- [Download software - Fluigent](#)