USER'S
MANUAL

PRESSURE UNIT

INLINE PRESSURE SENSOR

FLUIGENT

PRECAUTIONS

Do not open 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 an stable location with a level surface and good support.

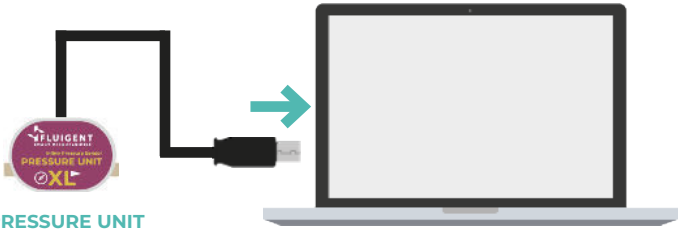
If using the PRESSURE UNIT with other flow control systems than Fluigent pressure controllers, please check that the pressure in your fluidic system does not exceed the maximum pressure of the sensor being used.

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 power supply.

PRESSURE UNIT USER'S MANUAL

QUICK START GUIDE

Plug the **PRESSURE UNIT** Inline pressure sensor to the computer using USB connection.

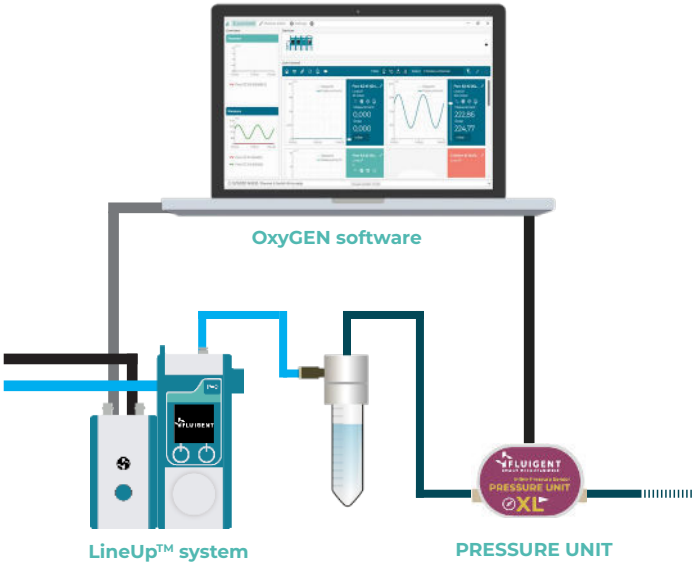


PRESSURE UNIT

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

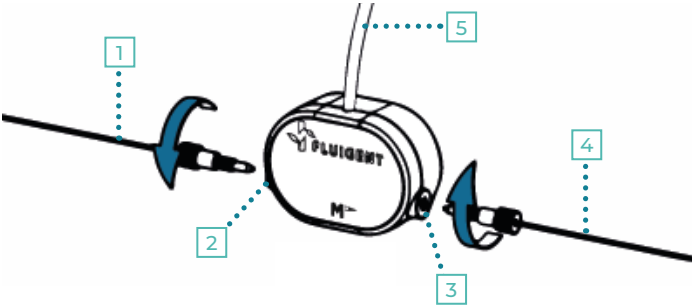
Note: The fluid can flow **following the direction of the arrow** indicated on the PRESSURE UNIT or in the opposite direction. As the sensor measures the pressure potential, it can be set in **any direction without affecting values.**

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 Fluigent **OxyGEN** 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, whether for liquid or gas. The product range can detect values from **69 mbar** (1 psi) to **7000 mbar** (100 psi). The sensor can be directly plugged to a PC with USB connection and **display in live the measurement** on Fluigent **OxyGEN** software interface. The user's can output this value for **custom software application** using the **Software Development Kit**.



1	Input tubing to connect to the sensor inlet
2	Sensor inlet screw the connectic to the port
3	Sensor outlet screw the connectic 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 µL	22 µL	22 µL
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	5 V	5 V
Maximal power	10 mW ⎓	10 mW ⎓	10 mW ⎓

Software compatibility: The **PRESSURE UNIT** sensor is compatible with Fluigent OxyGEN software to display the value measured in real time, or with the Software Development Kit to output the measured value in custom software application. **Download :** https://www.fluigent.com/resources-support/support-tools/software/

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

CLEANING PROCEDURE

General handling

The following section describes the steps to perform the cleaning of the **Pressure UNIT,** depending on your application. This protocol should be **performed daily if liquid is used inside the sensor.**

Following these cleaning procedures is essential to **maintain the device's precision** and **achieve optimum results**.

GENERAL RECOMMENDATIONS

- Use **clean tubing** upstream of the Pressure UNIT. This procedure can also be used to clean the tubing if they are reused for extended periods of time.
- Use tubing that have a **smaller iner diameter** (ID) than the **Pressure UNIT** to clean. This will ensure that no clogging occurs due to unfiltered particles, as tubing can be cut or replaced.

MANDATORY PRACTICES

- **Always clean** the sensor **between experiments** or at the **end of each day** if you are using liquids.
- **Always filter the solutions used,** including the cleaning solutions with proper filters and with the appropriate solvent compatibility.
- **Never** let a **solution dry in the sensor.**

Daily cleaning protocol for biological applications

6 Steps

1. Select a **cleaning solution compatible with the wetted materials** and the liquids used that will **dissolve likely contaminants**. **Filter** the cleaning solution.

2. Rinse the system with the liquid solution that you were using during the experiments for **1 min**. Do not use biologicals.

3. Wash with a detergent solution. If you're working with **cells or any biologicals**, use an enzyme detergent. We highly recommend using **Tergazyme** for this step (1% fresh solution in DI Water). Clean during **1 min at maximum pressure** followed by **10 min at medium pressure**.

4. Rinse with **DI Water** for 5 **min**.

5. Wash the system with **Isopropanol** for **5 min**.

6. Empty the reservoir. **Dry** properly your system with **air** at **maximum pressure** for **5 min**.

Daily cleaning protocol for other applications *(droplet, chemical...)*

4 Steps

1.. Rinse your system with the solution in use during the experiments for **1 min**.

2. Rinse with **DI Water** for 5 **min**.

Note: If working with oils, step 2 is unnecessary. Go to step 3 and wash your system directly with IPA or ethanol.

3. Wash the system with **Isopropanol** or Ethanol for **10 min**.

4. Empty the reservoir. **Dry** properly your system with **air** at **maximum pressure** for **5 min**.

Place the yellow plugs on the sensor if it is to be stored.

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 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 the 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 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 Fluigent support team at support@fluigent.com

TECHNICALSUPPORT

Any questions? E-mail us at:

support@fluigent.com

Or call our technical support team directly

Fluigent S.A.S +33 1 77 01 82 65

Fluigent Inc. +1 (978) 934 5283

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

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

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NOTES

VERSION
JAN. 2025

afaq ISO 9001 Qualité AFNOR CERTIFICATION

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