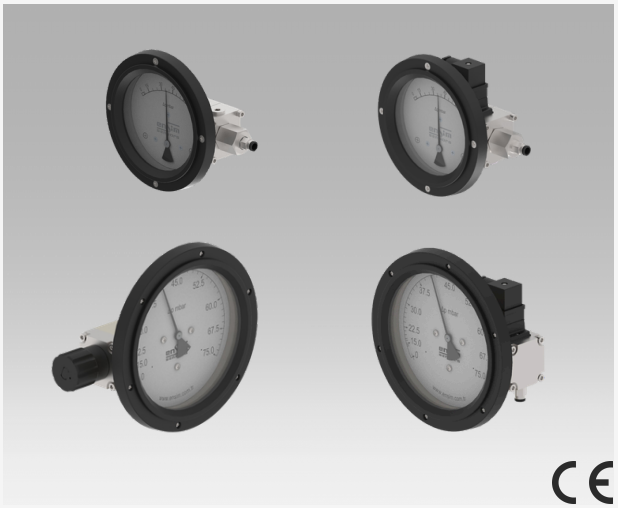
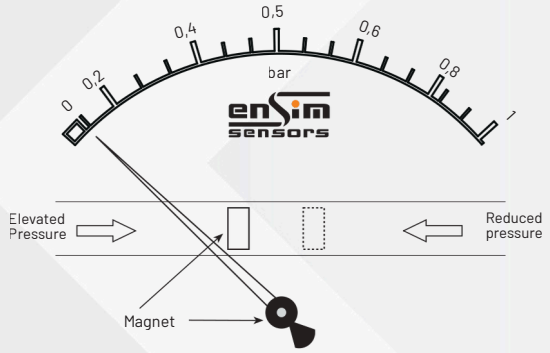
PRESSURE

DIFFERENTIAL PRESSURE GAUGE

EPS 500 Differential pressure gauges are used in many different industries to maintain process safety, efficiency and equipment health. Optionally, options such as different scales, flow rate indicator, level indicator and mounting devices can be added.



Working Principle:
It is based on sensing the mechanical movement created by two different pressure values entering the system and converting this movement into a visual value or electrical signal.
High pressure (H) and low pressure (L) are entered into the body of the device through two separate ports. These two pressure chambers are separated from each other by the sensor assembly, which consists of a diaphragm, piston and a calibrated measuring spring.
The difference between high and low pressure causes the diaphragm (and piston, if any in the design) to compress the spring in proportion to the pressure change and produce a linear motion.
This linear movement produced by the diaphragm is converted into the rotary movement of the needle. The most important feature of the device is that the internal mechanism in which the differential pressure is measured and the compartment containing the indicator needle are completely insulated from each other. The transfer of movement to the needle is carried out using magnetic coupling (magnetic coupling). Thanks to this design, no fluid passage (migration) is allowed from the high pressure side to the low pressure side.



Technical Specifications

Differential Pressure Measurement Range	0 - 70 mbar ... 4 bar
Measuring Element	Diaphragm Opt. Double Diaphragm
Indicator	Available
Indicator Diameter	Ø115 mm , Ø150 mm
Accuracy	±2% of full scale
Maximum Pressure Resistance	100 bar
Maximum Operating Temperature	(-) 20 °C....(+) 80 °C
Body Material	Aluminum (Std.) Opt. 304 / 316 St.St.
Diaphragm Material	Neoprene rubber (Std.) Opt. Viton
Cover Gasket	Neoprene rubber
Union Material	304 St. St. (Standard) Opt. 316 St. St.
Indicator Glass Material	Soda Glass (Standard) Opt. Safety glass
Contact	Reed Switch SPDT - 1 x NO / NC
*** Contact Current**	1 A
*** Max. Contact Power**	10 W / VA
*** Max. Swithching Voltage**	200 VDC / 140 VAC
Electrical Connections	ISO 4400 socket Opt. Socket with LED
Protection Class	IP 66 (EN 60529)
Weight	840...1500 g. (depending on model)

Model

- **EPS 501** (Std Type)
- **EPS 502** (Std Contact Type)
- **EPS 503** (Double Diaphragm Type)
- **EPS 504** (Double Diaphragm Contact Type)
- **EPS 505** (Adjustment Valve with Contact Type)
- **EPS 506** (Without Valve-Contact Type)

Advantages

- Compact structure
- Zero leaks
- It withstands high pressure
- Customizable scale

The pressure difference in contact models activates the piston, triggers the reed relay on the mechanism, and a contact output (electrical signal) is produced at the previously set pressure value.

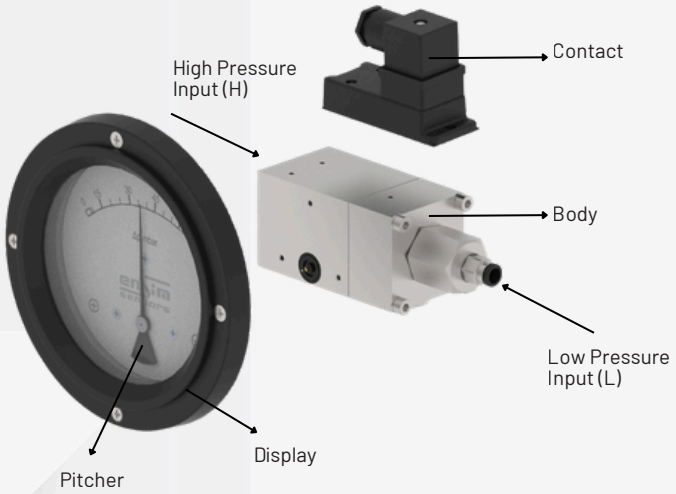
When the pressure in the system drops below the set level, the spring is released and the contact returns to its previous position.

There is no transition between high pressure and low pressure.

WARNINGS!

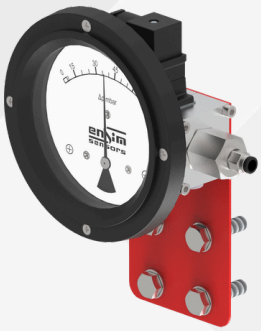
Please pay attention to following matters in order to operate your flow switch properly.
* It must be ensured that the values given for voltage, current, and power are not exceeded.
* When switched on, a load must be connected in series.
* The electrical details apply to ohmic loads. (Capacitive or inductive loads must be operated using a protective circuit.)

Parts



Connection Types

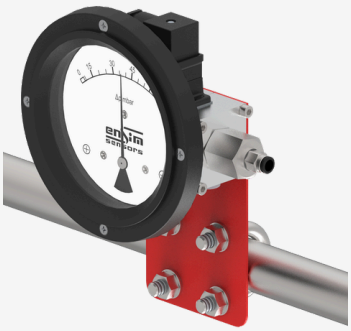
Surface Mount



Vertical Pipe Fitting



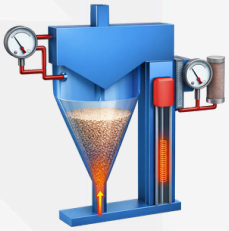
Horizontal Pipe Fitting

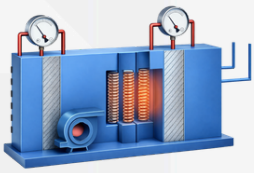


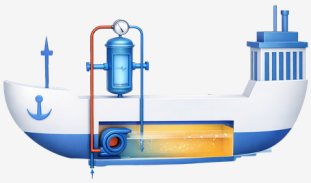
Application Areas

1. Filter Pollution and Condition Monitoring

Air Filter Monitoring:
It is used to monitor the performance and pressure drop of filters in laminar flow benches, fluidized bed dryers and distribution cabinets in environments requiring high-quality air, such as hospitals, pharmaceutical and semiconductor industries.







Ballast Water Filtration:
In the maritime sector, it is used in the process of purifying water taken into ships' ballast tanks from foreign marine organisms. Starts the automatic cleaning cycle when a preset differential pressure is reached on the filter.

Irrigation Filtration:
It detects that the filters in agricultural channels are clogged and sends a signal that automatically causes the system to backwash (back flush), thus preventing unfiltered water from flowing to the fields.

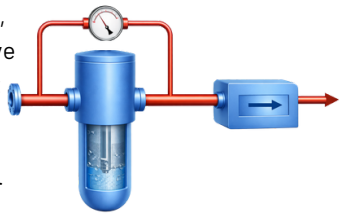


Natural Gas Filtration:
It is used to monitor filter condition in natural gas industry applications containing high amounts of dirt particles.



Application Areas

Dirt Holder (Strainer) Monitoring:
In oil companies and chemical plants, strainers are used to protect sensitive and expensive positive displacement flow meters from contaminated liquids.
Differential pressure gauges monitor the pressure drop on the strainer, preventing pump energy costs from increasing and flow meters from being damaged.

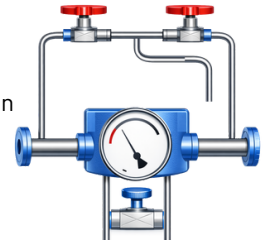


Self-Cleaning Filters:
Automatically starts the cleaning and backwashing cycle by detecting the pressure difference when the filter gets dirty.

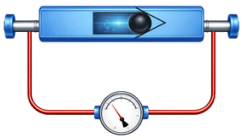


2. Flow Monitoring and Control

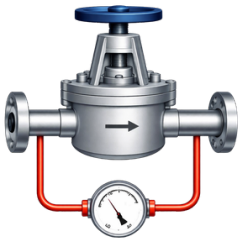
Flow Rate Monitoring and Control:
It is used to adjust the flow rate and control the flow with the help of valves in pipelines. Glycerin-filled indicator models are available for pulsating flow conditions.



Backflow (Backflow) Prevention:
It is used to test system differential pressure and control the installation of equipment used to prevent backflow.

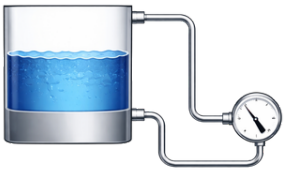


Flow Rate Monitoring and Control:
It is used to adjust the flow rate and control the flow with the help of valves in pipelines. Glycerin-filled indicator models are available for pulsating flow conditions.



3. Level Measurement

Liquid Tank Level Measurement:
In pressurized or open tanks, it functions as a visual indicator of the liquid level depending on the height (head) of the tank. The high pressure port is connected to the bottom of the tank, the low pressure port is connected to the atmosphere in open tanks and to the top of the tank in closed tanks, allowing accurate level measurement.

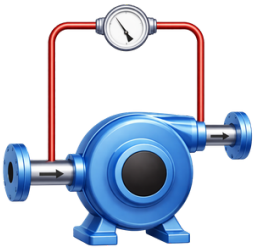


Cryogenic Tank Level Measurement:
It is used to perform weight or volume-based visual level tracking in fixed or mobile cryogenic tanks carrying gases such as liquid oxygen (LOX), liquid nitrogen (LIN) and carbon dioxide (CO2). These gauges are designed as dry type and are specially cleaned for oxygen service.

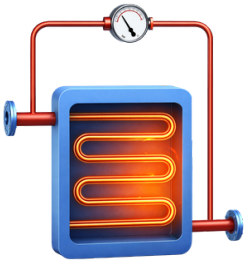


4. Pump, Blower and HVAC Systems Monitoring

Pump and Blower Performance:
Failure of a pump or blockages in the pipeline lead to a difference pressure change in the system. Thanks to indicators with a switch (switch) attached, operators are warned about high or low pressure malfunctions in pumps in remote locations.



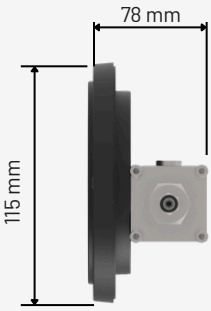
Heat Exchangers:
It is used to measure the pressure difference in heat exchangers, especially in transformer oil cooling systems. It can produce an alarm signal at a preset pressure difference value to prevent water and oil from mixing together in heat exchangers and ensure the safety of the transformer. It is also preferred for detecting an increased pressure drop due to scaling in heat exchangers

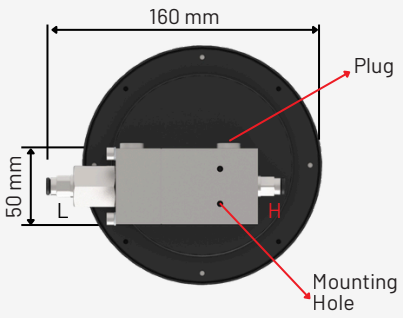


Dimensions

EPS 501
(Std Type)

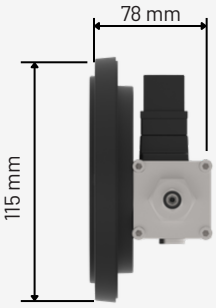


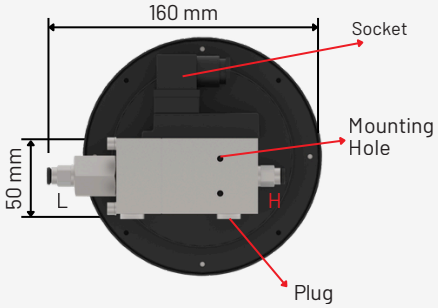




EPS 502
(Std Contact Type)

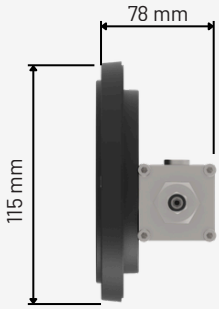


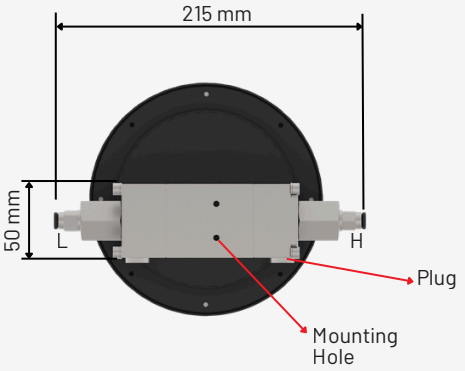




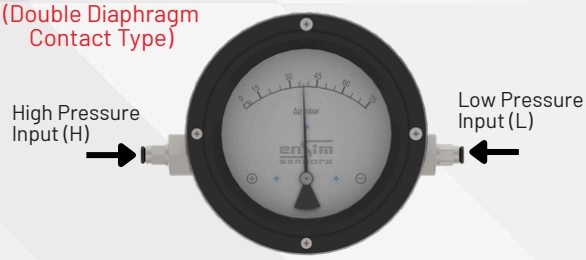
EPS 503
(Double Diaphragm Type)

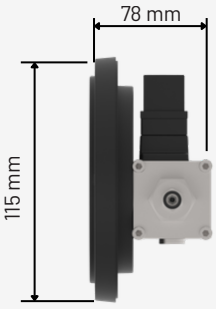


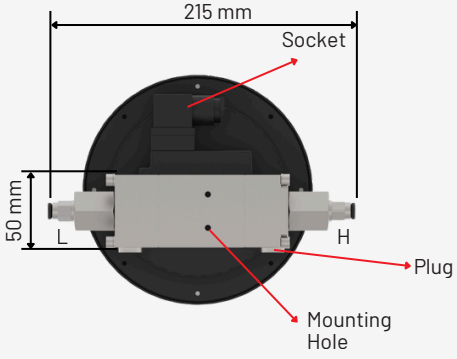




EPS 504
(Double Diaphragm Contact Type)

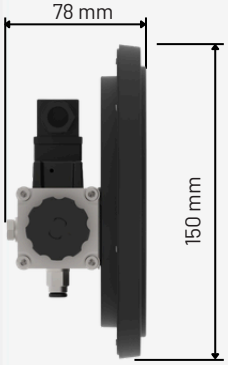


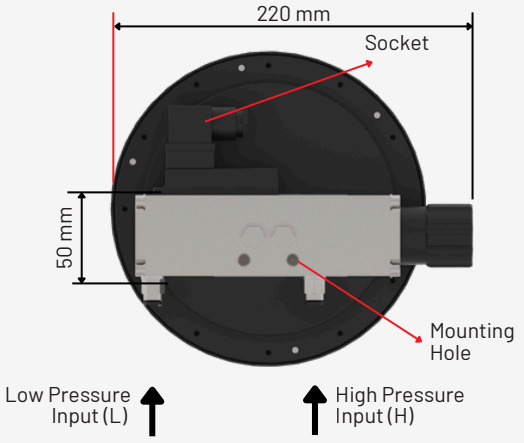




EPS 505
(Adjustable Valve Contact Type)



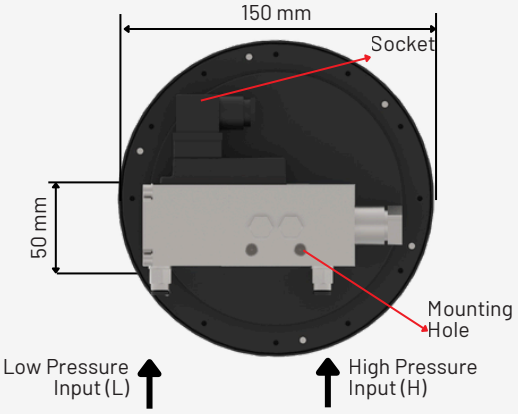




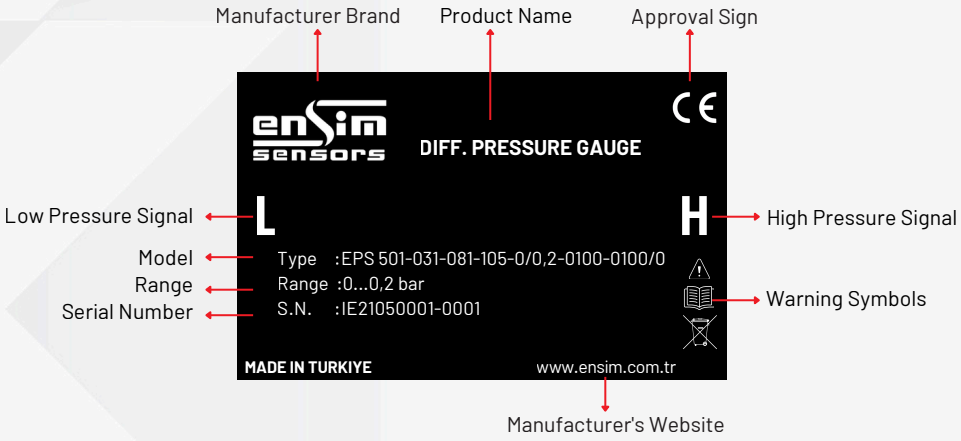
EPS 506
(Without Valve-
Contact Type)



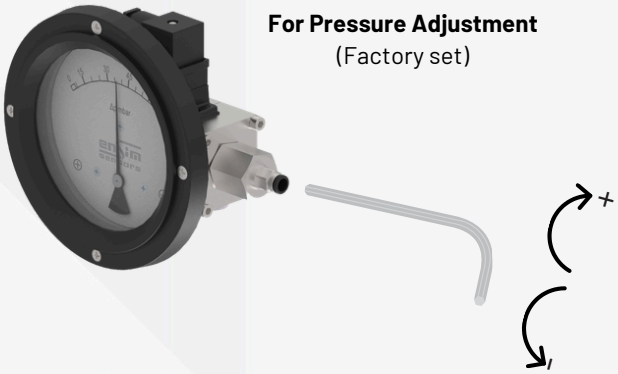




Label

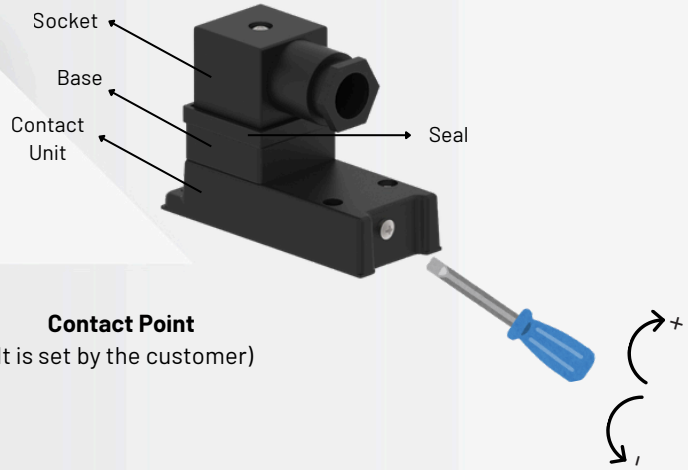


Adjusment

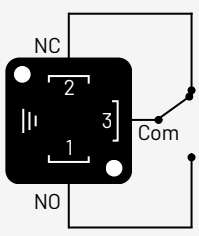


For Pressure Adjustment
(Factory set)

Set Point Adjustment



Contact Point
(It is set by the customer)



1 - NO
2 - NC
3 - Com

Order Method: You can consider sample models in coding!

1 MODEL EPS

Standart Type - **5**

2 CERTIFICATE

None - **0**	(EN10204-3-1) Material Certification - **1**

3 TYPE

Standart Type - **1**	Double Diaphragm Type - **3**	Adjustable Valve Contact Type) - **5**
Standard Contact Type - **2**	Double Diaphragm Contact Type - **4**	Without Valve-Contact Type - **6**

4 BODY MATERIAL

Aluminium (Painted) - **031**	316 Stainless Steel - **002**
304 Stainless Steel - **001**	Special - **x**

5 DIAPHRAGM MATERIAL

NBR Rubber Diaphragm - **081**	Viton Diaphragm - **082**
	Special - **x**

6 INDICATOR DIAMETER

115 mm - **115**	150 mm - **150**

7 RANGE

0...70 mbar - **0070**	0...400 mbar - **0400**	0...3 bar - **3000**
0...100 mbar - **0100**	0...750 mbar - **0750**	0...4 bar - **4000**
0...160 mbar - **0160**	0...1,1 bar - **1100**	Special - **x**
0...200 mbar - **0200**	0...1,5 bar - **1500**	
0...300 mbar - **0300**	0...2 bar - **2000**	

8 SCALE

Differantial Pressure- **DP**	Level - **H**
Flow - **F**	Special - **x**

9 HIGH PRESSURE (H) CONNECTION

¼" BSP Female (Std.) - **0100**	Special - **x**

10 LOW PRESSURE (L) CONNECTION

¼" BSP Female (Std.) - **0100**	Special - **x**

11 OPTIONAL

None / **0**	Upright Pipe Mounting Bracket / **B1**
Double Scale / **DS**	Horizontal Pipe Fitting Bracket / **B2**
Customer Logo / **L**	Surface Mount Bracket / **B3**
Polyamide Big Socket With Light P03 / **52**	Special / **x**

EXAMPLE

EPS 501-031-081-115-0200 - DP - 0100 - 0100 / 0

- **501 :** Model (Std. Type)
- **031 :** Body Material. Aluminum (Painted)
- **081 :** Diaphragm Material. NBR Rubber Diaphragm
- **115:** Indicator Dia. Std. 115 mm
- **0200** : Measurement Area 200mbar
- **DP**: Scale Diff. Pressure
- **0100 :** High Pressure (H) Connection ¼ BSP Female Tooth (Std)
- **0100 :** Low Pressure (L) Connection R 1/4 Female Tooth (Std.)
- **/ 0** : Optional None

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