

## ECON DIFFERENTIAL PRESSURE GAUGE

Fig. 755



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**1. ERIKS operating companies**

ECON pressure- and pressure differential gauges are being delivered by several ERIKS operating companies on a worldwide basis. In this manual these will be referred to as 'ERIKS', the individual terms of delivery of the ERIKS operating company having executed the order are applicable.

**2. Product description**

The ECON pressure differential gauge Fig.755 has a magnetic piston design and has a high overload protection and a maximum pointer. Fig.755 must be used in accordance with the applicable pressure-temperature rating and the information in our latest catalogue and in accordance with the applicable pressure-temperature rating as stated on information on our website [www.eriks.com](http://www.eriks.com). ECON pressure gauges are provided with markings. The marking on the dial makes the identification of the pressure gauge easier and contains:

- pressure rating range in ▲ P bar / psi
- ECON logo

**3. Requirements for maintenance staff**

The staff assigned to assembly, operating and maintenance tasks should be qualified to carry out such jobs and in any circumstance, ensure personal safety. Electrical work may only be performed by trained electricians and in compliance with all applicable local and national directives.

**4. Transport and storage**

Transport and storage should always be carried with the packaging until just before mounting. Keep the packaging as it will provide optimum protection during transport. The pressure differential gauges should be stored in an unpolluted space and should also be protected against all atmospheric circumstances and against heavy vibration and must not be subject to a magnetic field. There should be taken care of the temperature and humidity in the room, in order to prevent condensate formation.

**5. Function and technical specification**

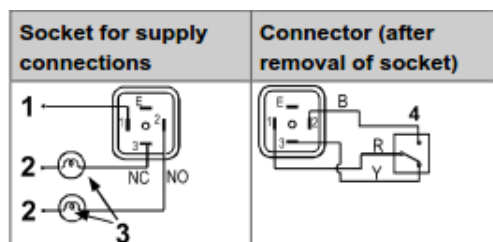
The ECON differential pressure gauge Fig.755 is used for measuring the pressure difference over the inlet and outlet side of a filter, with maximum pointer, suitable for high static pressures. The pressure gauge has been designed and built solely for the intended use described here and may only be used accordingly. Fig.755 is unsuitable for hazardous media and hazardous areas/potentially explosive atmospheres..

A separate reed contact suitable for Fig.755 can be mounted next to the pressure chamber, the reed contact is activated by the magnetic field of the sensor unit.

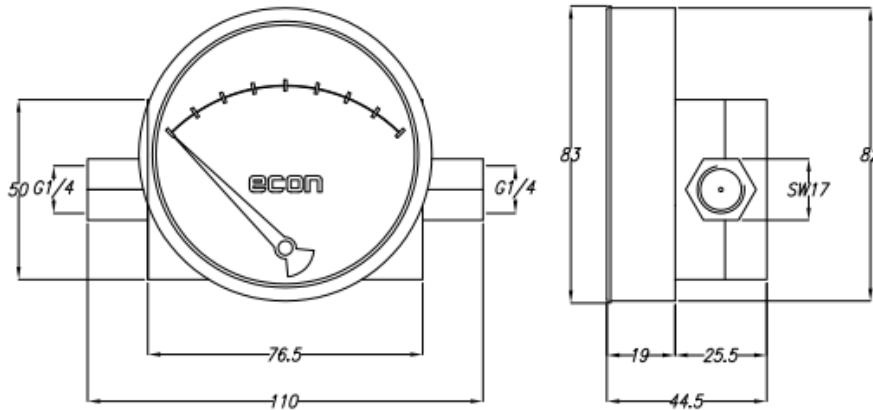
**Technical specification Fig.755**

Parameters	Value
<b>General specifications</b>	
Housing Ø	80 mm
Connection	2 x G1/4" female thread, width across flats SW 17
Range (EN 837-3/5)	0 – 1,6 bar / 0 – 24 psi
Dial	Dial marking black/red (bar/psi), scale angle 90°
Window	Glass with maximum drag pointer
Static pressure	Max. 100 bar
Overpressure safety	Up to the maximum static pressure at both sides
Accuracy	±3 % of full scale value at increasing differential pressure
Degree protection	IP 65 as per EN 60529
<b>Operating temperature range</b>	
Ambient	0 °C to 80 °C
Medium	0 °C to 80 °C
<b>Material (parts not wetted)</b>	
Housing	Stainless steel 1.4301 with rubber sealing ring at the front
Connection cover	Plastic, glass-fibre reinforced black
Dial	Aluminium, white
Pointer	Aluminium, black
Window	Instrument glass
<b>Material (wetted parts)</b>	
Connection	Stainless steel 1.4401
Measuring element (compressing spring)	Stainless steel 1.4310
Magnetic piston	Stainless steel 1.4401/strontium ferrite
Seal	NBR
<b>Electrical contacts</b>	
Version	Reed contact, single, changeover contact (SPDT)
Switching voltage	AC/DC 30V
Switch rating	AC 3 VA
Current	AC/DC 300 mA
Switching hysteresis	Approx. 5 %
Adjustment range	35 – 100% of full scale value
Electrical connection	Connector DIN 43650-A

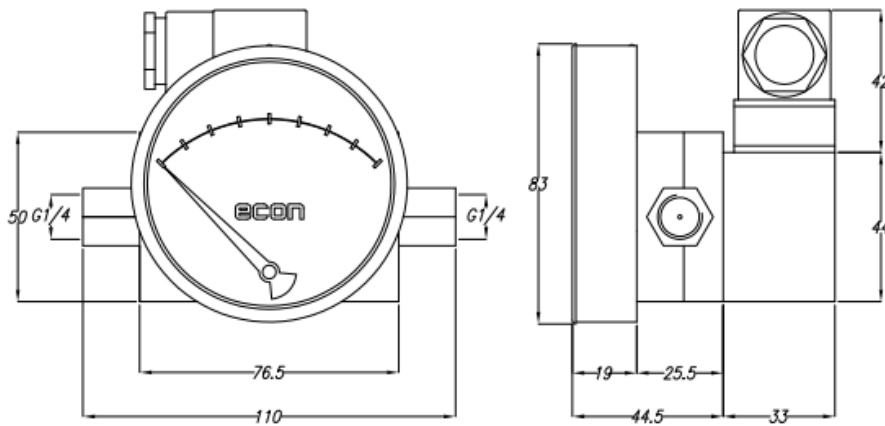
**Reed contact (SPDT)**



- 1 L or (+)
- 2 N or (-)
- 3 Load
- 4 SPDT contact
- R Red
- B Black
- Y Yellow



**Dimension Fig. 755 with connection on the left and right side**



**Dimensions of fig.755 with connection on the left and right side and with electrical contact.**

## 6. Application

The magnetic piston type pressure differential gauge Fig.755 may only be used for differential pressure measurement of gaseous and liquid, non-adhesive and non-aggressive media, within the specified pressure application range. Fig.755 can be used as an indication of pressure differential on ECON single filter Fig.1096 and ECON dual filter Fig.1098.

### **Predictable incorrect application**

Fig.755 must never be used in the following cases.  
 Hazardous areas/potentially explosive atmospheres  
 Application in an environment subject to a magnetic field.  
 Application in an environment subject to heavy vibrations

### **Safe handling**

Each product is subjected to a function and safety test, prior to shipping.  
 Operate Fig.755 only when it is in perfect condition. Always observe the operating instructions, all pertinent local and national directives and guidelines as well as the applicable safety regulations and directives concerning the prevention of accidents.

### **Use of spare parts and accessories**

Usage of unsuitable spare parts and accessories may cause damage to the product.  
 Use only genuine accessories of the manufacturer. Changes and modifications made to the product by unauthorised persons may lead to malfunction and are prohibited for safety reasons.

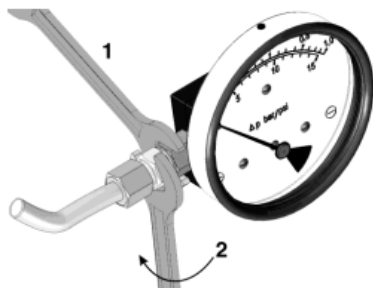
## 7. Installation

### Prior to mounting

- Verify compatibility of the medium with the wetted parts.  
The following conditions must be met at the installation site for correct indication:
- Do not expose Fig.755 to heavy vibration or shocks.
- Do not use Fig.755 in an environment subject to a magnetic field
- Within an area of 50 mm around the product, only non-magnetic equipment, parts, etc. may be used. Otherwise, the calibration is influenced.
- If Fig.755 is installed in or on a panel, the panel material must be non-ferrous.

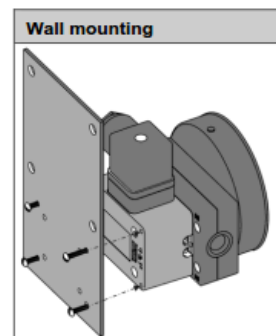
### Mounting Fig.755

- Un pressurise the system.
- Install Fig.755 horizontally, i.e. align the dial vertically.
- Verify correct connection of “High pressure” and “Low pressure”, do not interchange the connections.
- Connect the line for high pressure to the “High” connection and the line for low pressure to the “Low” connection of Fig.755
- Use O-rings with male connectors in order to avoid excessive tightening torque and leakage (with parallel threads).
- Apply high pressure and low pressure to Fig.755 at the same time in order to avoid damage to internals parts.



#### Connection of the lines:

- 1 Hold Fig.755 with the spanner
- 2 Tighten Fig.755 with the spanner



#### Wall mounting with contact

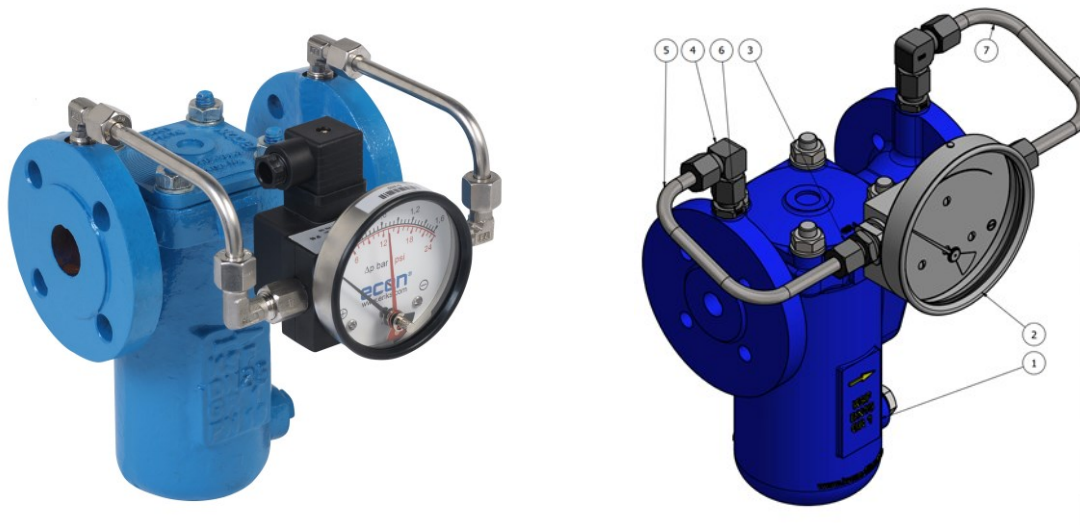
### **CAUTION** Damage to the O-rings at the male connections and the Buna or Viton seal in the pressure chamber caused by excessive static pressure.



- Do not exceed the maximum permissible static pressure specified in Chapter 3

If the static pressure is within the permissible pressure range, but the differential pressure exceeds the permissible range, this does not cause damage to the device. In such a situation, the pointer is at the utmost right end of the scale.

Mounting examples for mounting Fig.755 on a ECON single filter Fig.1096 or ECON dual filter Fig.1098, with ECON mounting kit.

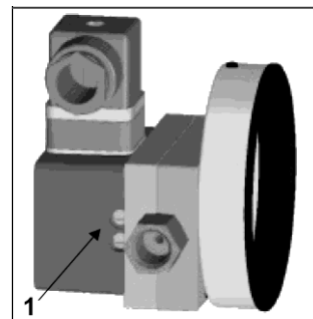


Part	Description
1	ECON Single filter fig 1096
2	ECON pressure differential gauge fig 755
3	Straight coupling or elbow; 1/4" BSP x 8 mm tube
4	Elbow; 1/4" BSP x 8 mm tube
5+7	Tubing stainless steel 8 mm
6	Male stud coupling 1/4" BSP

**Contact settings for Fig.755 with electrical contact**

The supply must not exceed the maximum contact rating!  
Contact adjustment screw (1)

- The contact adjustment screw (1) is located on the plastic cover at the high pressure side.
- Turn the contact adjustment screw counter-clockwise to increase the switching point, turn it clockwise to decrease the switching point.
- 4 times full turn of adjustment screw is approximately 0,25 bar
- Default set point is approximately 1 bar
- One or two attempts may be necessary to obtain the desired switching point.
- This adjustment procedure can be performed on a test bench or directly during operation.



**8. Maintenance**

Before starting any service jobs, make sure that the medium supply to the pipeline is cut off, pressure was decreased to ambient pressure, the pipeline is completely cleaned and ventilated and the plant is cooled down. Always keep safety instructions in mind and take all personal safety precautions.

During maintenance, the following rules should be observed:

- the instruments are maintenance-free for a long time, when chosen for the right application and used according the measure temperature rating.
- always keep personal safety precautions in mind and always use appropriate protection e.g. clothing, masks, gloves etc.
- be alert that the temperature still can be very high or low and can cause burns.
- check if the threaded connection is still fastened.

- dust, grease and medium residual, must be frequently cleaned of the pressure gauge body and window to maintain a clearly readable dial.
- check if the pressure gauge indicator functions in a proper manner, once or twice a year
- when necessary a calibration test can to be carried out, if the pressure gauge still functions according the accuracy class as mentioned on the dial.
- if required, a new pressure gauge can be installed, for safety reasons we recommend that the pressure gauge only can be changed, when the system is depressurized, drained and ventilated.
- residual media in dismantled pressure gauges can result in a risk to persons, the environment and equipment. Take sufficient precautionary measures!!

**9. Service and repair**

All service and repair jobs should be carried out by the manufacturer or appropriately trained skilled personnel. After replacement of pressure gauge, it is necessary to check the pressure gauge operation and tightness of the connection. A tightness test should be carried out.

In order to protect the environment and our staff, we will inspect returned products only if this is possible and without risk to health and environment. Always enclose a declaration of decontamination when returning a device. (confirmation that the device is free from hazards).

**10. Troubleshooting**

It is essential that the safety regulations are observed when identifying the fault.

Problem	Possible cause	Corrective measures
Fig.755 indicates incorrect values or no values at all.	Pressure lines have a leak or are clogged.	Verify that the pressure lines have no leaks, that they are not twisted/bent and that they are not clogged.
	Incorrect installation.	Verify that the device has been correctly installed, see chapter 5
	External objects or magnetic particles in the pressure chamber.	The devices are clean when delivered. Check the area of the cap at both ends for cleanliness.
	No differential pressure between high pressure side and low pressure side	Filter is new/clean. Wait until differential pressure is generated in the system.
	Other causes	Send the device to the manufacturer.

**11. Removal**

All dismantled and rejected pressure gauges cannot be disposed with household waste. The pressure gauges are made of materials which can be re-used and should be delivered to designated recycling centres. Wash or clean the dismantled pressure gauge before returning it, in order to protect personnel and the environment from exposure to residual media.



ERIKS flow control  
 Econosto Nederland bv  
 Cypresbaan 63, 2908 LT Capelle aan den IJssel  
 P.O. Box 8988, 3009 TJ Rotterdam  
 The Netherlands  
 T 010 284 10 00  
 F 010 451 68 51  
 I [www.eriks.com](http://www.eriks.com)