



**Applied Standards on Differ-Mate 132**  
Accuracy Classes: ASME B40.100

## ***InstruMate***®

Low pressure differential pressure gauge  
for air and non-inflammable gases  
Model 132

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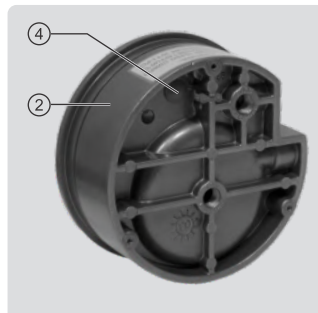
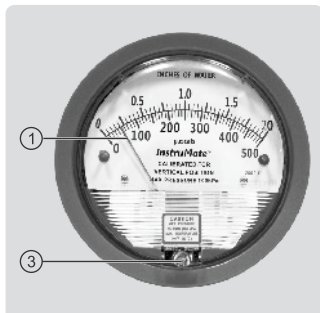
### 1) Introduction

- 1-1) All InstruMate differential pressure gauges are made under the management system certified to ISO9001 and strictly controlled for production process.
- 1-2) Installation site regulations and local safety requirements are to be observed prior to this instruction manual.
- 1-3) it is recommended to skilled worker or personnel to study instruction manual before handling the instrument.
- 1-4) This instrument in your hands is suitable for the applications and specifications given in the corresponding product data sheet.
- 1-5) InstruMate Co., Limited insists on permanent improvements. As a result, technical info are subject to modifications.

**Data sheets and more information can be found at:** [www.instrumate.com](http://www.instrumate.com)

**Technical consults:** [info@instrumate.com](mailto:info@instrumate.com)

### 2) Overview



- ① Pointer
- ② Housing
- ③ Adjustment screw
- ④ Overpressure blow out plug

### 3) Proper Application and Safety Measures

- 3-1) In industries like HVAC where monitoring the air pressure difference between two locations is of high importance, reliable and accurate means to measure differential pressure are needed. Differ-Mate 132 measures the differential pressure values for air and non-inflammable gases, filters, clean rooms, etc.  
Manufacturer shall not be claimed responsible for operations other than stated.
- 3-2) User shall pay attention to applying condition like ambient temperature and process temperature and overpressure limitations which can affect the performance of the device if not observed according to product data sheet.
- 3-3) Differ-Mate 132 is calibrated in vertical position. For maximum accuracy they should be recalibrated in the same position that they are going to be installed shall it be other than vertical.

### 4) Storage, Package and Transport

- 4-1) Storage temperature is explained in permissible temperature ranges.
- 4-2) Package includes the standard installation accessories and the instruction manual. It is advised to keep the package if you are going to use the instrument as portable unless you have prepared a portable case for it.
- 4-3) Differ-Mate 132 is shock resistant and its window is break resistant. However, you must take necessary measure to protect it for long distance transportation.

### 5) Installation

5-1) For your ease of assembly, the following items are included in the delivery:

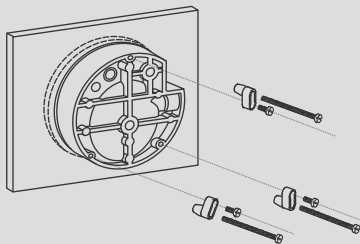


5-2) It is suggested to keep sensing hose less than 25 meters. Any longer hose length will not affect the accuracy, but would reflect on response time slightly.

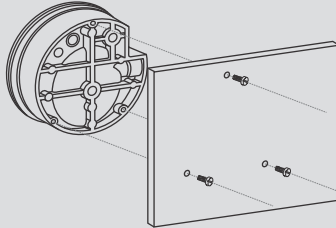
The hose connection adaptor is 8mm. choose the hose accordingly.

It is suggested to use copper tube for permanent installation and silicon or rubber tube for portable installation.

5-3) In case of flush panel mounting, make a hole of 113.8 mm as orifice diameter.

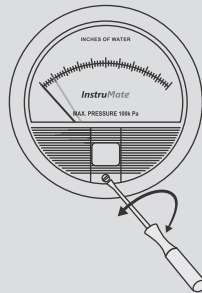


5-4) In case of surface mounting, prepare 3 holes corresponding to Instrument 3 holes which are 120° apart from each other on a circle of 103 mm.



## 6) Zero Adjustment

There is a zero adjustment screw on front window, very well sealed and easily accessible. After calibrating InstruMate 132 in factory, we make the pointer to stand a little ahead of zero to make sure end user will not alter the calibration by moving the pointer in wrong direction against zero stop. So please kindly return the pointer to zero position after installation. Both high and low connections must be open to ambient atmosphere pressure when you are doing so.



### 7) Measurement options

#### 7-1) Measuring differential pressure:

Connect the tube or hose from the high pressure source to one of the two high pressure connections of your own choice on the instrument and plug the other one. Then connect the tube or hose from the low pressure source to one of two low pressure connections of your own choice on the instrument and plug the other one.

Remind: don't forget re-zeroing before plugging other connections.

#### 7-2) Measuring positive pressure:

Connect the tube or hose from the high pressure source to one of the two high pressure connections of your own choice on the instrument and plug the other one. Let one or both low pressure connections be vented to ambient atmosphere.

#### 7-3) Measuring negative pressure:

Connect the tube or hose from the vacuum or negative pressure source to one of the two low pressure connections of your own choice on the instrument and plug the other one. Let one or both high pressure connections be vented to ambient atmosphere.

### 8) Faults and Errors

InstruMate Differ-Mate 132 gauges are tested in the factory before dispatch to customers to make sure there is no fault in their operation. If by any means, faults are noticed in their commissioning, they must be taken out of the operation.

If you noticed any accuracy error, please check if the instrument is installed vertically.

#### A list of common faults and their reasons:

Faults	Reasons	Measures
Pointer is sluggish	Fittings or plugs are leaking	Reinstall all plugs and fittings with proper sealing
	Pressure source is blocked	Check continuity of the pressure source all the way to the instrument

Faults	Reasons	Measures
Pointer is sluggish	Case is not tight enough, gasket is defective	Open all connections and tight the gauge case first
	Ambient temperature is lower than permissible range	Permissible temperature ranges must always be observed
Gauge is not indicating	Other pressure port is not plugged	Always plug the unused pressure port
	Overpressure has caused diaphragm rupture	Replace the instrument. Permissible over pressure must always be observed

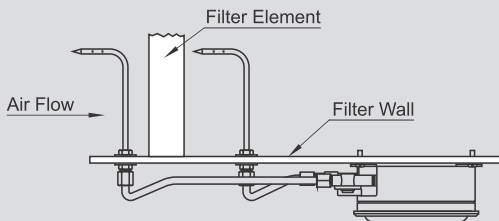
#### Permissible Temperature

Ambient: -10...+60 °C

Medium: -5...+55 °C Maximum

#### Considerations for filter monitoring:

- \* To avoid velocity pressure error, air should not blow directly to the pressure connections.
- \* Your installation must provide a straight duct approach to filter bank to avoid air to swirl.
- \* Pressure taps must be located in zones with minimum turbulence.
- \* You should replace or service the filter if the pressure drop across the filter reaches the minimum value recommended by filter manufacturer.

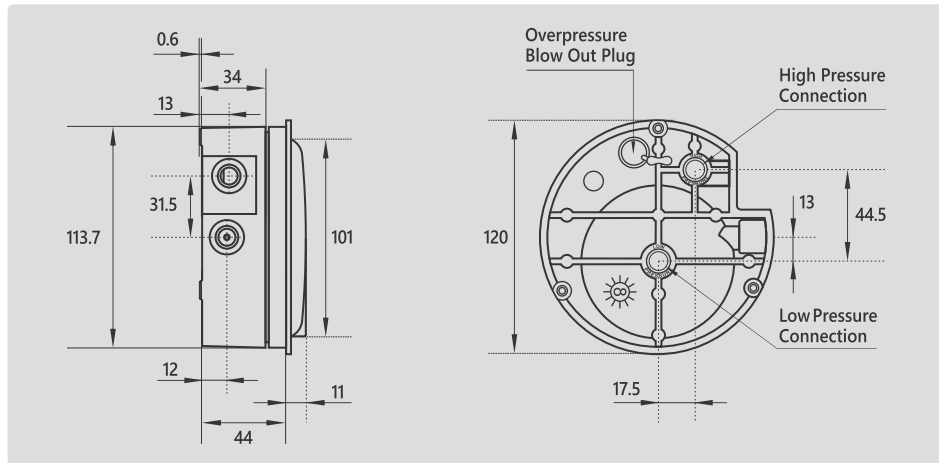




### 9) Maintenance and Cleaning

InstruMate 132 is maintenance-free. Only the window acrylic can be cleaned with a moist towel. Occasional zero adjustments of the pointer might be necessary. (please check 6. Zero adjustment)

### 10) Dimensions



### 11) Uninstallation and disposal

As far as recycling is concerned, this instrument is mostly made of Aluminum and has silicon and magnet inside it. But you shall follow your country regulations in case of the disposal of the instrument.

For Specifications please refer to product datasheet.

# ***InstruMate***<sup>®</sup>

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