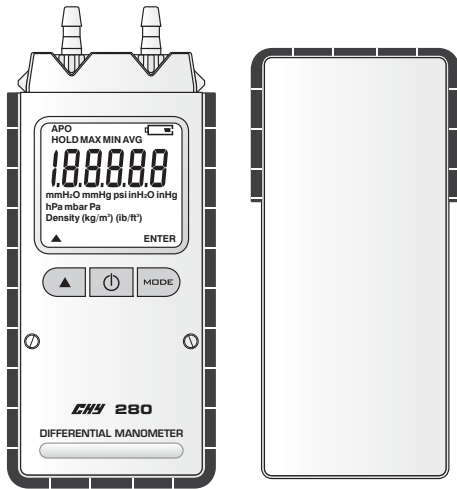


# OPERATING INSTRUCTIONS

## MODEL 280


### DIFFERENTIAL MANOMETER



## SPECIFICATIONS

Unit	Range	Resolution
mmH <sub>2</sub> O	0 to 1019.7	0.1
mmHg	0 to 75.00	0.01
psi	0 to 1.450	0.001
inH <sub>2</sub> O	0 to 40.14	0.01
inHg	0 to 2.953	0.001
hPa	0 to 100.00	0.01
mbar	0 to 100.00	0.01
Pa	0 to 10000	1
fpm	*	1
m/s	*	0.1

**Accuracy:** Nominal temperature 22°C, ±1dgt)  
 ±0.03 hPa(0 to 0.30 hPa),  
 ±0.05 hPa(0.31 to 1.00 hPa),  
 ±(0.1 hPa+1.5% of reading) (rest of range)  
 ±0.3 mmH<sub>2</sub>O(0 to 3.0 mmH<sub>2</sub>O),  
 ±0.5 mmH<sub>2</sub>O(3.1 to 10.2 mmH<sub>2</sub>O),  
 ±(1.02 mmH<sub>2</sub>O + 1.5% of reading) (rest of range)  
**Measurement rate:** 2 times/second.  
**Auto power off:** 10 minutes.

**Low battery indication:** The  is displayed when the battery voltage drops below the operating level.

**Operating Environment:** 0°C to 50°C (32°F to 122°F) at < 70% R.H.

**Storage Temperature:** -20°C to 60°C (-4°F to 140°F), 0 to 80% R.H. with battery removed from meter.

**Battery:** 1.5Vx2pcs AAA size.

**Battery Life:** 85 hours typical.


**Dimensions:** 24.7mm(T) x 50.9mm(W) x 132.9 mm(H).


**Weight:** Approx. 113g. (Including batteries)

## OPERATIONS

There are 3 operation modes, namely Measurement Mode, Set Mode and Hold Mode.


### 1. Turning on and off the meter:

When power is off, a short push on “” key turns on the meter and enter Measurement Mode.

When power is on press and hold “” key for 2 seconds turns the power off.


Right after power on, all the indicators on the LCD display lights up for one second.

### 2. Measurement Mode:

Before start measuring, disconnect the meter from pressure sources, press “” key to zero the meter. (When there is a measurement > 10hpa, Zeroing function is disabled).


Connect the meter to the pressure sources, the meter start measuring and refresh every 0.5 seconds.



### Backlight:



In measurement mode, a short push on “” key turns on the backlight for dark environment, it goes off automatically after 15 seconds if without further operation.


### 3. Set Mode:

In set mode, user can select Unit , Density of Medium and turn on/off APO function.(APO = Auto Power Off, when APO is ON, the meter power off automatically if no operation in 10 minutes.)

When power is off, press and hold “” key for 2 seconds to enter Set Mode.


3.1 Unit setting: Press “” key to change unit (press and hold “” key, to scroll units), press “MODE” to selection the unit and enter next setting. If unit of air speed (fpm or m/s) is selected, then next setting is density setting otherwise APO setting.

3.2 Density of the medium setting: Press “” key to change value (press and hold “” key to scroll values), press “MODE” key to select and enter APO On/Off setting (Max. Density: 0.624lb/ft<sup>3</sup> or 9.999kg/m<sup>3</sup>)

3.3 APO ON/OFF: short push on “” key switches

between ON and OFF. Push “MODE” key to select, exit Set Mode and Enter Measurement Mode.

(Please refer to the section of Measurement Mode.)

※**Note:** To turn off power in Set Mode abandon the current setting and previous settings remain unchanged. If  indicator appeared, the setting value can works till power off but did not save to meter.

### 4. Hold Mode:

In Measurement Mode, short push “Mode” key to enter Hold Mode with indicator “HOLD” shows at upper left corner of LCD.

Right after entering this mode, shown in the LCD is the last measurement and the reading will not be updated with new measurement.

Push “Mode” key each time the display changes in following sequence:

- 4.1 Last Measurement: with indicator “HOLD”.
- 4.2 Maximum value recorded: with indicator “HOLD” + “MAX”.

4.3 Minimum value recorded: with indicator “HOLD” + “MIN”.

4.4 Maximum-Minimum value recorded: with indicator “HOLD” + “MAX-MIN”.

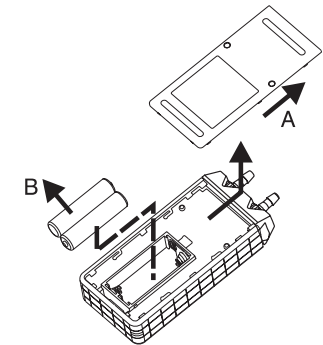
4.5 Average of values recorded: with indicator “HOLD” + “AVG”. (only for wind speed)

4.6 Exit the Hold Mode and return to Measurement Mode.

### To clear the recorded values:


In Hold Mode and during viewing MAX, MIN, MAX-MIN or AVG, press and hold “Mode” key for 2 seconds, to clear the recorded data and return to measurement mode.

### Installing and Replacing Battery



A. Battery Cover

B. Battery

1. Power is supplied by 2pcs 1.5V (AAA SIZE).
2. The  appears in the display when battery replacement is needed.
3. Push the Battery Cover and lift it in the direction as shown in the figure.
4. Remove the batteries from battery compartment.
5. Replace with 2 new AAA batteries with polarity as indicated on the bottom of Battery Compartment.
6. Replace the Battery Cover.

※**Note:** When not use for long time remove battery and don't keep in place with high Temp, or high humidity.

### Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

## INTRODUCTION

This instrument is design to measure the difference between the pressures applied on the two ports of the meter. With a Pitot tube (separate purchasing) the meter also measures air speed.

Besides displaying result of current measurement, and hold function the meter also store max / min / max-min / avg values.

## SAFETY INFORMATION

Only operate the measuring instrument properly, for its intended purpose and within the units specified in the technical data. Do not use force.

Never store the product together with solvents, acids or other aggressive substances.

Only carry out the maintenance and repair work that is described in the documentation. Follow the prescribed steps when doing so.