

## THE M1233ZM

The M1233ZM H<sub>2</sub> purity sample panel can be mounted on any flat surface. The connections are made via 1/4" gas ports located on the panel. No electrical, mechanical, or pneumatic devices exist on the sample panel.

### General Specifications:

Max Input pressure:	250 psig
Gas Flow Rate:	0.1 - 1 LPM
Dimensions:	18.29" x 8.93" x 11.18" (l, w, h)
Electrical requirements:	N/A
Connections:	7 x 1/4" fittings

### 1.0 LOCATION

The following guidelines should be used when selecting a location for the calibration unit:

- 1) Easily accessible for maintenance and inspections
- 2) No corrosive gases are present
- 3) Calibration and sample gases are available

### 2.0 Mounting the M1233ZM Panel

- 1) The sample panel should be mounted vertical up on any flat surface. This will allow the flow meter's floats to move freely when either sample gas or calibration gas is flowing.
- 2) Wrap the threads of all fittings with Teflon tape and thread into the M1233ZM panel

### 3.0 Gases

**Zero:** Typically, 100% H<sub>2</sub> is used for zero gas. A compressed gas cylinder containing certified gas fitted with a dual stage regulator should be used.

**Span:** Typically, 100% CO<sub>2</sub> is used for span gas. A compressed gas cylinder containing certified gas fitted with a dual stage regulator should be used. **Sample:** The sample gas should be applied at a rate of 600 ml/min +/- 10%. Periodically make sure that the given flowrate is kept constant.

**Important Note:** To prevent leakage all threaded fittings must have Teflon tape (or suitable alternate).

## 4.0 Piping (See Fig 1)

The piping connections to the panel consists of:

- One sample gas line to the detector
- One zero-point (H<sub>2</sub>) calibration gas line
- One span-point (CO<sub>2</sub>) calibration gas line
- One line in from the detector output
- One line out to the detector inlet
- One exhaust gas line to process return
- One exhaust gas vent line to atmosphere

The type of piping chosen depends on the composition of the gas under measurement, its pressure, the amount of dust mixed, and the response (dead time). It is advisable however to use stainless steel piping of sizes 6 mm inner and 4 mm outer diameters.

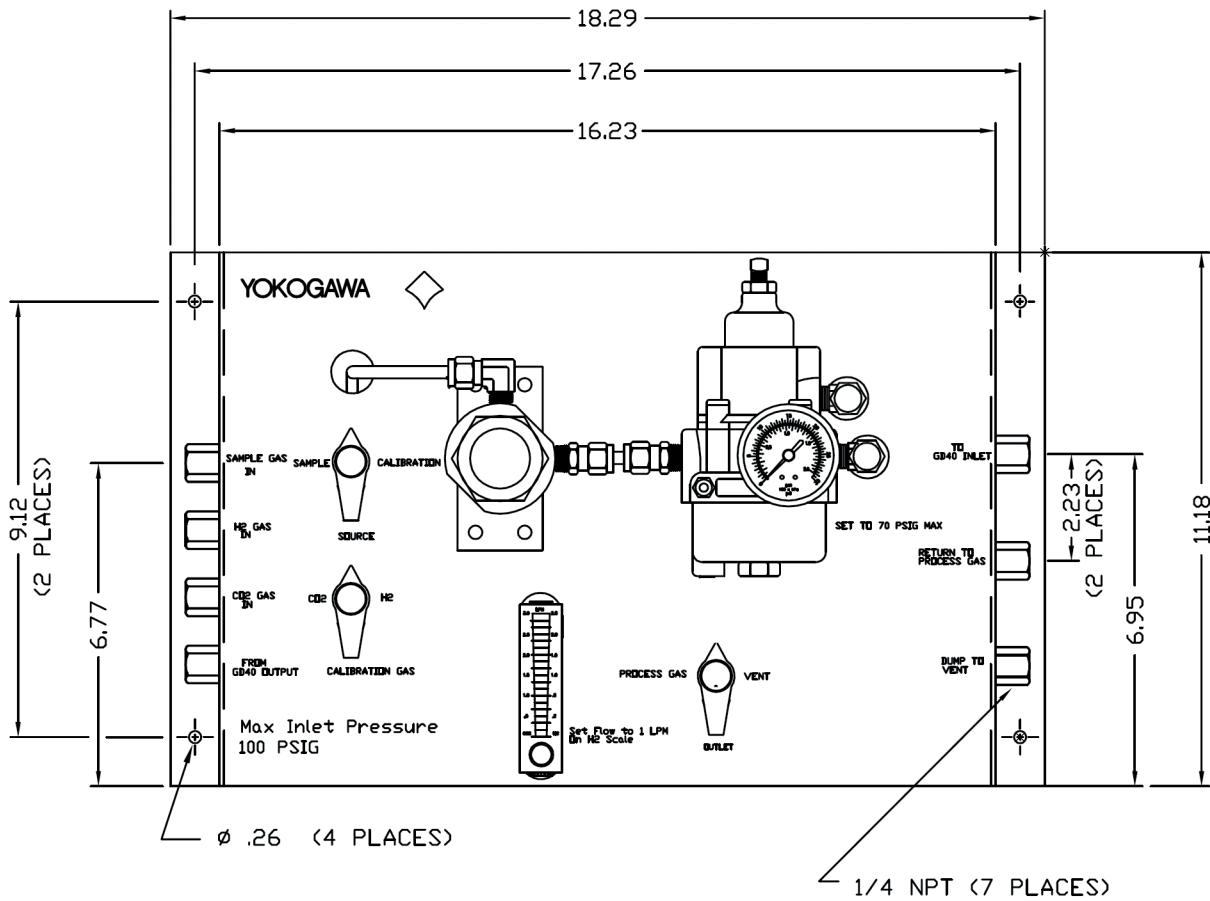
### 4.1 Sample Gas and Pressure Notes

- 1) Measurement gas must be free of dust, mist or moisture, and other such impurities. A coalescing filter should be installed upstream of the detector to remove particulates and moisture
- 2) The inlet pressure must be greater than the outlet pressure by .71 psig minimum
- 3) The pressure regulator is adjusted to 60 psig at the factory; no adjustments are required
- 4) Maximum regulator inlet pressure is 250 psig
- 5) The pressure transmitter for compensating pressure is designed to detect the pressure inside the detector; no adjustments are required
- 6) The sample flow should be controlled at 0.6 LPM.
- 7) The sample gas temperature needs to be no higher than 50°C (122°F)
- 8) The sample gas pressure needs to be regulated to no higher than 70 psig.

Make the appropriate connections to the panel:

**Important Note:** The Dump to Vent fitting must be connected to the generator hydrogen line. The hydrogen vent line must be at atmospheric pressure.

Fig. 1



## 5.0 Flow Adjustments

- 1) Ideal flow rate through the sample panel is 600 ml/min although any flow between .1 LPM and 1 LPM is acceptable.
- 2) There are two floats in the dual-scale flow meter, one black (H<sub>2</sub>), and one silver (CO<sub>2</sub>).
- 3) When flowing sample gas or zero gas set H<sub>2</sub> float at 0.6 LPM. When flowing span gas set CO<sub>2</sub> float at 600 ml/min.

## 6.0 Using the sample panel

- 1) To introduce sample gas to the GD40 detector set the source selector to Sample and set flow rate accordingly.
- 2) To introduce calibration gas to the GD40 detector set the source selector to Calibration and set flow rate accordingly.
- 3) When performing a calibration set source selector to Calibration and set Calibration selector to CO<sub>2</sub> or H<sub>2</sub>.
- 4) Set Outlet selector to Process Gas or Vent depending on ambient conditions.

## 7.0 Spare Parts

M1233ZP	PRESSURE REGULATOR
M1233ZQ	FLOWMETER, DUAL SCALE H <sub>2</sub> , CO <sub>2</sub>
M1233ZR-02	COALESCING FILTER ELEMENT, SS-FCB
M1233ZR-0	COMPLETE FILTER HOUSING AND FILTER ELEMENT ASSEMBLY