Sample Chamber for a 1231 Heated Oxygen Probe

Designed to accommodate a 1231 in-situ oxygen probe for applications where inserting a probe directly into the process is not possible.

The sample chamber connected to a sample tube is suited to applications where high temperatures, hostile compounds or highly abrasive particulate will rapidly damage any in-situ measuring devices.

The sample chamber is constructed using 316 stainless steel, the same grade of steel used for the oxygen probe to provide a sturdy external process chamber for extracted gasses. Mounted vertically with the return port at the bottom, the large diameter gas path is designed to be less susceptible to blockage from particulate or contamination, and in many applications process gas does not need to be dried or conditioned.

Processes that use external sample chambers

- Glass and Ceramic Furnaces: Molten silica and glazing salts will rapidly destroy any in-situ zirconia probe.
- PVC Incinerators: Place an acid trap between the process and sample chamber to remove highly acidic compounds from the process gas.
- Medical or Toxic Incinerators: High temperatures combined with hostile compounds will rapidly damage any in-situ probes.
- Brick Kilns: Hostile and abrasive compounds will result in rapid probe deterioration.

By inserting a relatively inexpensive sample tube into the process and extracting a gas sample, accurate oxygen measurement can be achieved while reducing the exposure of the oxygen probe to the abrasive or corrosive process environment. Less exposure to hostile process gasses also results in increased probe operating life using less expensive 'off the shelf' 1231 250mm heated oxygen probes.

The oxygen probe can be unscrewed from the sample chamber allowing for easy and fast replacement of the oxygen probe without altering any other process connected plumbing.

The mounting bracket is constructed from solid 25 x 6mm 316 stainless steel, welded to the sample chamber in a reinforced tee arrangement. The bracket has been tested to withstand even the worst vibration found on industrial sites.

Every sample chamber comes complete with a heat shield to prevent accidental contact with the hot surface of the sample chamber.

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Specifications

Application

- Facilitate the measurement of oxygen concentration in high temperature, corrosive or abrasive process gasses extracted via a sample tube.

Sample Chamber Material

- 316 grade Stainless Steel
- Inconel wetted parts optional
- Wall thickness: 2.77 mm (0.109 inch)

Gas Connection

- 3/8" OD Swagelok tube fittings

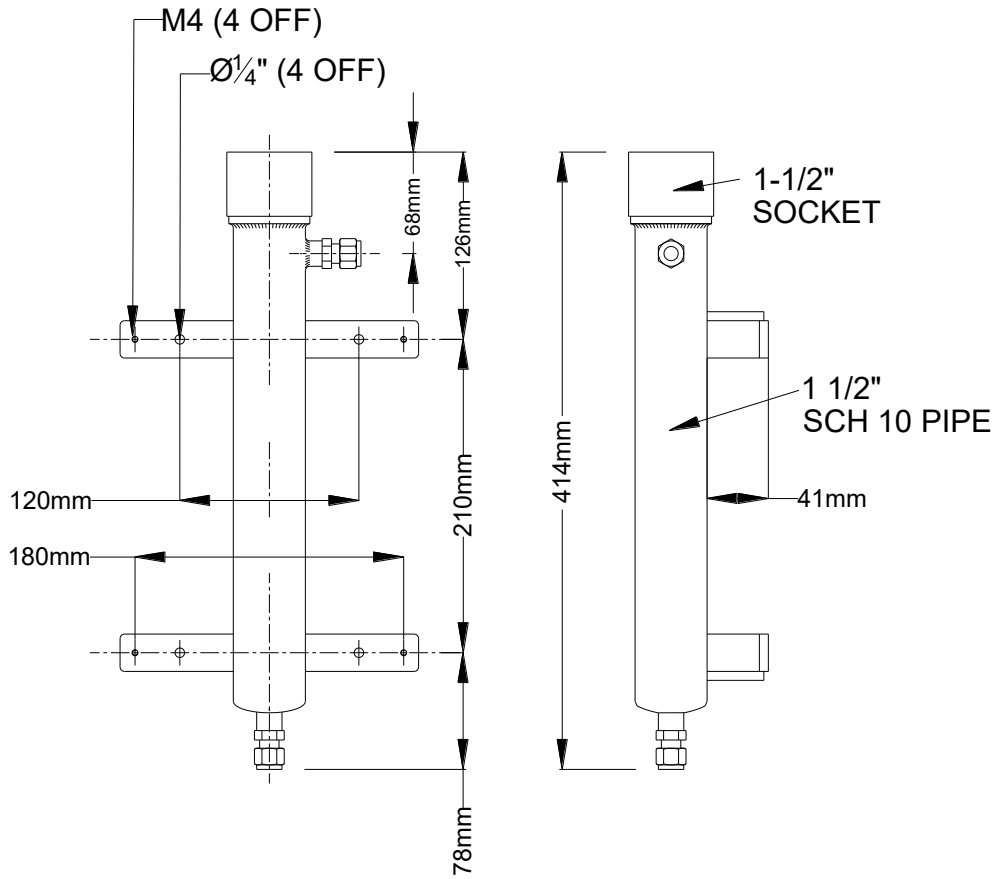
Pipe Socket to Suit Probe

- 1.5" BSP or NPS

Compatible Probes

- Novatech Controls 1231 250mm (without filters)
- BSPT or NPT thread to suit sample chamber pipe socket connection

Dimensions & Mounting Diagram



Heat Shield

- Included with each sample chamber

Weight

- Sample Chamber without heat shield or probe: 2.0 kg (4.4 lb)
- Sample Chamber complete with 1231 250mm probe and heat shield: 5.15 kg (11.4 lb)

Flow Rate Range

- Minimum: 2 litres per minute (LPM)
- Maximum: 10 LPM

Ordering Codes

- SC-1 Sample Chamber 316SS
- SC-2 Sample Chamber Inconel Wetted Parts

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