

AVSU/Module Operating and Maintenance Instructions



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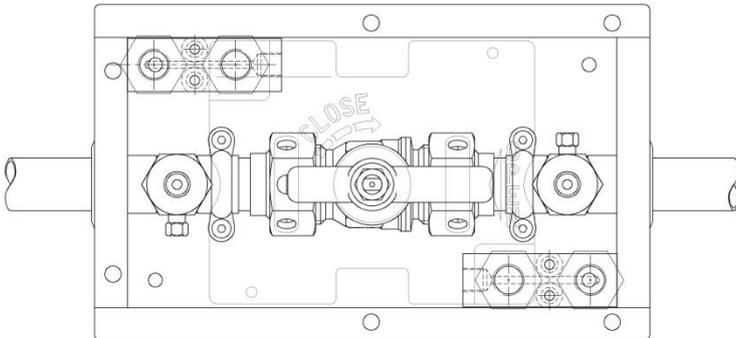
The Area Value Service Units and Module format (AVSU) provide a local gas isolation facility for use during normal installation and maintenance or in the event of an emergency. They are built in accordance with the HTM2022, HTM02-01, C11 and EN737 standard's and are suitable for Oxygen, Nitrous Oxide, Oxy-Nitrous Oxide, MA4, MA7 and Vacuum.

Features:

- The AVSU can be installed as a flush or surface mounted.
- Housed in a steel white epoxy coated box and a key operated 90° lock for security.
- A breakable glass front to the door gives an immediate indication as to the gas type, the valve position and the gas flow. In an emergency the glass front can be broken thus allowing access to the valve.
- The valve type is a 90° shut off ball valve, which is operated via a handle, and each unit comes complete with a blanking plate, which can be fitted, to either side of the valve.
- Non-interchangeable NIST connectors are fitted upstream and downstream of the valve. The NIST connectors provide the facility to purge a system before the working gas is introduced and also following any downstream interruption of the supply. The NIST connectors also allow for the pipeline pressure to be tested and provide an easily accessible point for gas sampling.
- Each NIST include non-return valves with 100% sealing.
- Side entry sizes available 22mm, 28 and 42mm (other entry versions available)
- Pressure switches if required can be fitted inside the box to enable local monitoring-see the following picture.
- All Gas ID labelling is fixed internally and viewed through the door window.

AVSU-Pressure switch location

Pressure Sensor-Right to Left Flow



Pressure Sensor-Left to Right Flow

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Operation

The AVSU is used to isolate the gas supply in a department/area for maintenance or in an emergency. The gas supply is isolated by rotating the valve handle thro 90 degrees to the closed position. To reconnect the gas supply the valve handle is turned back through 90 degrees to the open position as indicated.

The AVSU is used to physically isolate the gas supply, during periods of modification works for example, by inserting a blank spade between the valve and the pipeline, these are located within the box.

The NIST connectors situated upstream and downstream of the valve can be used for purging, testing, gas sampling and for the connection of an emergency supply. To connect to a NIST, unscrew the NIST cap and screw on the connecting equipment. It is only possible to connect the correct gas or vacuum NIST fitting. Upon completion of the procedure, the equipment should be removed, the NIST cap replaced, the door closed/locked and the key returned.

Authorised Access

To gain access to the valve assembly, the key for the door should be obtained from the responsible person. A permit to work may be required depending on the nature of the work to be carried out. It is advisable to close and lock the door of the AVSU if you leave the AVSU during completion of works.

Emergency Access

If access is required to the valve assembly in an emergency, this can be achieved without having the key to the door by breaking the glass window preferably with a hard object. The key will be required to replace the breakable glass window and return the AVSU to its original secure condition.

Safety

This equipment should be operated and maintained by personnel who are suitably trained and fully conversant with HTM2022, HTM02-01 and BS EN 737.

This equipment should be kept clean and free from oil and grease at all times. Oxygen will ignite spontaneously in the presence of oil and grease. If you suspect that any equipment is contaminated, do not use it.

No attempt should be made to modify equipment for use with a gas other than that identified.

This equipment should not be operated at pressures exceeding those stated in HTM 2022 and HTM 02-01.

Installation

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The AVSU may be installed in horizontal or vertical positions. Either way it is advisable to maintain the following sequence from left to right or top to bottom.

02, N2O, 50% O2/50% N2O, Med AIR 4, Surgical AIR, Vacuum

The AVSU should be installed at a height that is easily accessible by hand. Consideration must be given to furniture or crash rails that may be installed at a later stage of the construction.

Assembly-AVSU Singular units

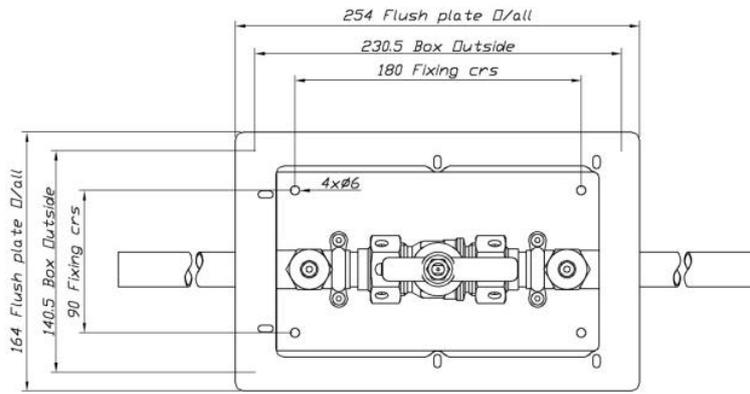
- Open the door, remove valve handle and valve cover plate from the AVSU assembly and store in a safe place.
- Ensure that a cable entry hole is drilled in the box if a pressure sensor is fitted within the box.*Ensure the pressure sensors are on the downstream of the unit.
- Determine the position of the AVSU and secure to the wall utilising the mounting holes on the rear of the box.
- Braze the copper stub to the fixed pipeline system; take care not to burn the enclosure by taking appropriate means.
- Pressure test as per the contract conditions eg.HTM2022 guidelines.
- Install the cover plate and valve handle.

Assembly-AVSU Module

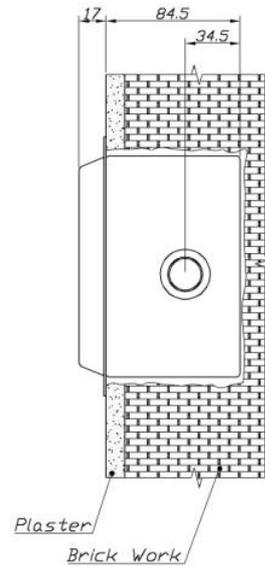
- Remove the 2nd fix from the completed assembly, by unscrewing the 4 screws on the side.
- Unplug the power cable and pressure sensor leads.
- Offer up the 1st fix to the required position on the wall, taking note of the floor to ceiling height as specified on the original specification sheet.
- Utilising the mounting holes on the 1st fix Backplate secure to the wall using suitable fixings.
- Connect to the mains power on a 13amp fused spur. *only suitably trained personnel should undertake this procedure.
- Ensure the fitted pressure sensors are downstream of the pipeline system.
- Braze the copper stubs to the fixed pipeline system; take care not to burn the enclosure by taking appropriate means.
- Pressure test as per the contract conditions eg.HTM2022 guidelines.
- Connect the power and pressure sensor leads from the 2nd fix to the 1st fix.
- Insert the 4 screws on the side of the 1st fix loosely.
- Offer up the 2nd fix fascia cover locating the 4 screws on the side of the fascia into the relevant mounting key holes on the 2nd fix.

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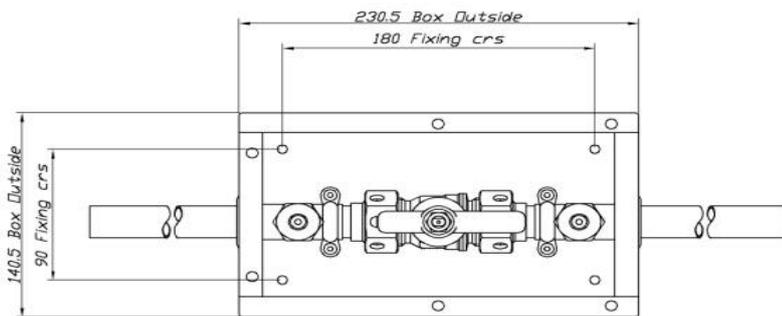
Flush Mounting



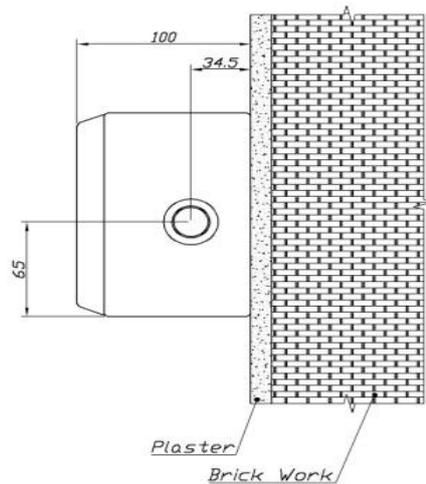
Shown With Door and Open/Close Label removed.



Surface Mounting

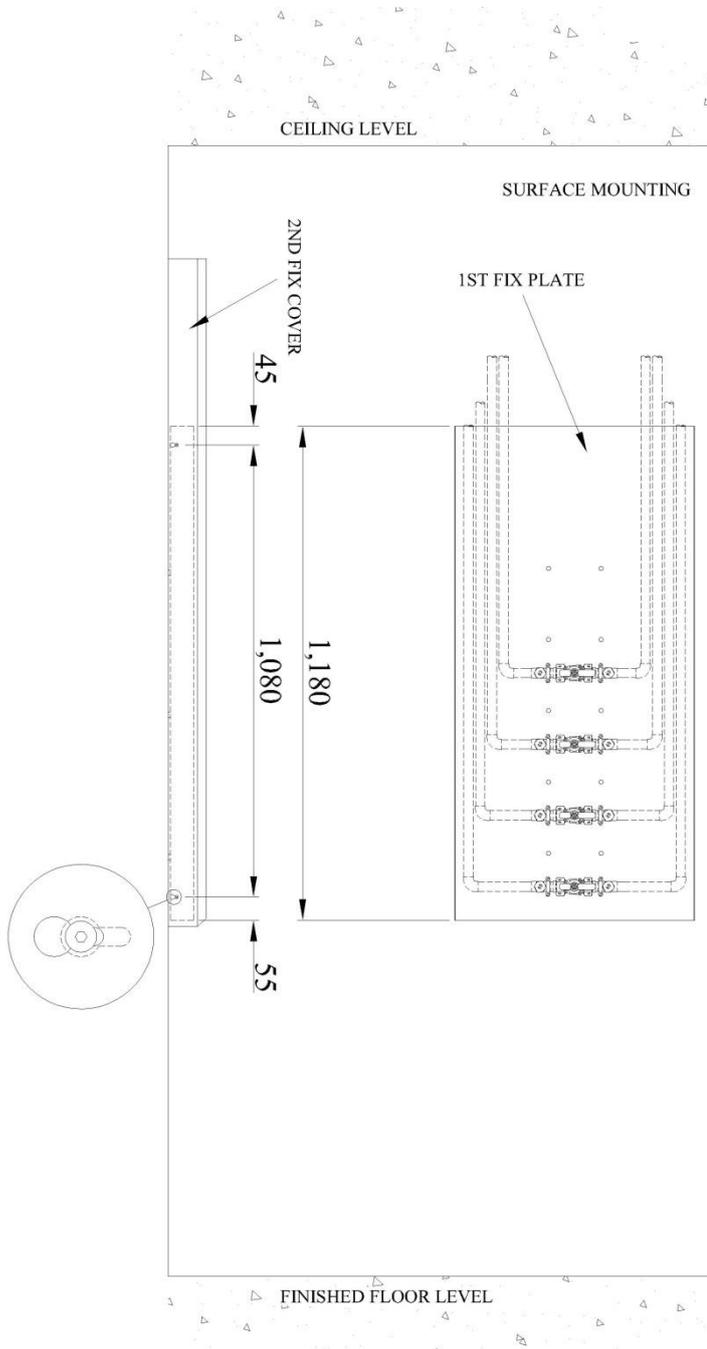


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AVSU Module Mounting Detail



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1. Fix the 1st fix plate to the wall at the required height as confirmed on the original order specification sheet.
2. Insert supplied M5 Domed head screws into one side of the 1st fix plate ensuring to leave enough thread for the 2nd fix cover to slide on the slot provided.
3. Using large holes in cover locate the screws and slide cover over the screw head.
4. Slide the cover flush with the wall and tighten M5 Dome head screws.
5. For opposite side slide the cover back to the wall and repeat 4.

Maintenance

The AVSU is used mainly to assist in isolating the gas supply during maintenance procedures. However, some minimal maintenance may be required on the unit as detailed below:

Monthly;

Visually inspect the enclosure for signs of damage and check the door is securely locked.

Annually;

- Open the door and clean any debris from the mounting box.
- Check the valve operates freely.
- Check the blank spade is in the box for future use.

Spare Parts List

| Item No. | Description | Part Number |
|----------|------------------|-------------|
| 1 | 22mm ball valve | AVSU-22BV |
| 2 | 28mm ball valve | AVSU-28BV |
| 3 | 22mm Thru Plate | 22THRU |
| 4 | 28mm Thru Plate | 28THRU |
| 5 | 22mm Blank Plate | 22BLANK |
| 6 | 28mm Blank Plate | 28BLANK |
| 7 | O-Ring KIT | AVSU-ORK |
| 8 | Blank NIST Cap | NISTCAP |

Due to our policy of continual improvement PRECISION UK Ltd reserve the right to alter dimensions and or specification without notice although every effort will be made to advise of any such modifications.