

Installation, Operation and Maintenance Manual



Area Valve Service Unit Module Medizone

Part number 4233500271
Revision 03



BEACONMEDAES®

Area Valve Service Unit Module - Medizone

This unit is purchased from:

Date purchased:

Model number:

Serial number:

Option(s) included:

Any information, service or spare parts requests should include the serial number and be directed to:

BeaconMedæS
Greaves Close MARKHAM VALE
CHESTERFIELD S44 5FB UK

Telephone: +44 (0) 1246 474242
Email: gbn.info@beaconmedaes.com
Website Contacts: www.beaconmedaes.com

BeaconMedæS reserves the right to make changes and improvements to update products sold previously without notice or obligation.



BeaconMedæS Greaves Close MARKHAM VALE
CHESTERFIELD S44 5FB UK



Personnel must make themselves familiar with the contents of this manual and the function of the unit before installing, operating or maintaining.

Abbreviations			
Abbreviation	Full Description	Abbreviation	Full Description
HTM	Health Technical Memorandum	%	Percentage
BS	British Standard	Kg	Kilograms
BSP	British Standard Pipe	kPa	Kilo pascals
ISO	International Organisation for Standardization	PSI	Pounds per square inch
EN	European Standards	NRV	Non-return valve
ID	Identification	1st	First
Med	Medical	2nd	Second
°C	Degree Celsius	O2	Oxygen
Ø	Diameter	N2O	Nitrous oxide
OD	Outside Diameter	N2O/O2	O2/N2O 50%/50% V/V
m	Meter	MA	Medical Air
mm	Millimetres	SA	Surgical Air
"	Inch	VAC	Medical Vacuum
Max	Maximum	CO2	Carbon Dioxide
Min	Minimum	N2	Medical Nitrogen

Issue Record

Document No	Revision No.	Details of Changes	Date
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1. Safety, Storage and Handling

1.1 Warning

1. Read through these entire instructions before using or showing others how to use this equipment. As with all medical equipment, attempting to use this device without a thorough understanding of its operation may result in patient or user injury.
2. Do not attempt to modify this device in any way not strictly described within this manual.
3. Obtain a work permit before commencing any work on a medical gas installation.
4. No attempt should be made to use this product with a gas service or at a pressure other than as identified.
5. Do not use this product if it appears damaged in any way.
6. Do not use this product if there is evidence of contamination internally or on any of gas wetted connections (e.g. debris, particles, oil, lubricants or grease).
7. This equipment should only be installed, commissioned, operated and maintained by technicians who are suitably trained with medical gas systems, such as Competent or Authorised Persons as defined in UK Department of Health Technical Memorandum No. 02-01 (HTM 02-01).
8. Keep all components dry and clean during installation. BeaconMedaes AVSU can be safely handled and stored under normal working and environmental conditions, harsh abrasives or chemicals may damage to the unit.
9. Incompatible oil and greases can auto ignite in pressurised oxygen. Do not lubricate this product with oil or grease. Safe and compatible lubricants can be obtained from BeaconMedaes if necessary.
10. The device can weigh in excess of 40 kg. Use proper lifting equipment and techniques where necessary. Failure to do so can result in personal injury or equipment damage.
11. In an emergency, break the pull-out window marked **"PULL IN EMERGENCY AND CLOSE VALVE"** to access and shut off the valve while the door remains locked.

1.2 Cautions

1. Check that the correct gas type union sub-assembly is fitted to the correct gas pipeline. Gas identity is stamped on the union and printed on the NIST label
2. Use of sub-standard or inappropriate parts and materials may damage the product and invalidate the warranty. Only use genuine BeaconMedaes spare parts.
3. Pressurised gas from the medical gas pipeline system may cause personnel injury or property damage if the unit is incorrectly operated or maintained.

4. Leak detection fluids contain surface active agents (surfactants) that can damage plastic components under stress. Only use leak detection fluids that are compatible with the materials being tested.
5. Always wash leak detection fluids off with clean water immediately after use.
6. Improper selection or use of the first fix mounting screws and fixings may cause the device structure to fall. Consult the suppliers advice for correct selection and installation.

Notes

1. All information, specifications and illustrations within this manual are those in effect at the time of printing.
2. The manufacturer reserves the right to change or make improvements without notice and without incurring any obligation to make changes or add improvements to products previously provided.

1.3 Identification of symbols

The following symbols apply to this product and are used in these instructions and on the product in question. The meanings of these symbols are as specified below: -

Symbols	Title
	Manufacturer
	Date of manufacture
	Authorized representative in the European Union
	Batch code
	Catalogue Number
	Serial number
	Protect from heat and radioactive sources
	Keep dry
	Temperature limit
	Humidity limitation

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	Atmospheric pressure limitation
	Caution
	Unique Device Identifier
	Do not use if package is damaged and consult instructions for use
	Keep away from sunlight
	Lower limit of temperature
	Upper limit of temperature
	Biological risks
	Consult instructions for use or consult electronic instructions for use
	Medical device
	Do not dispose of in general waste

Environmental Transport and Storage Conditions

All products are separately packaged and stored in controlled conditions.

Minimum storage temperature: 0 °C
Maximum storage temperature: +40 °C

Environmental Operating Conditions

Adverse environmental conditions and harsh abrasives or chemicals may cause damage to the unit.

Minimum working temperature: 0 °C
Maximum working temperature: +45 °C
Humidity 10 to 95% R.H.
Air Pressure 70 to 110 kPa

Cleaning

Care should be taken when cleaning terminal units to ensure that alcohol based cleaning fluids do not enter the terminal unit.

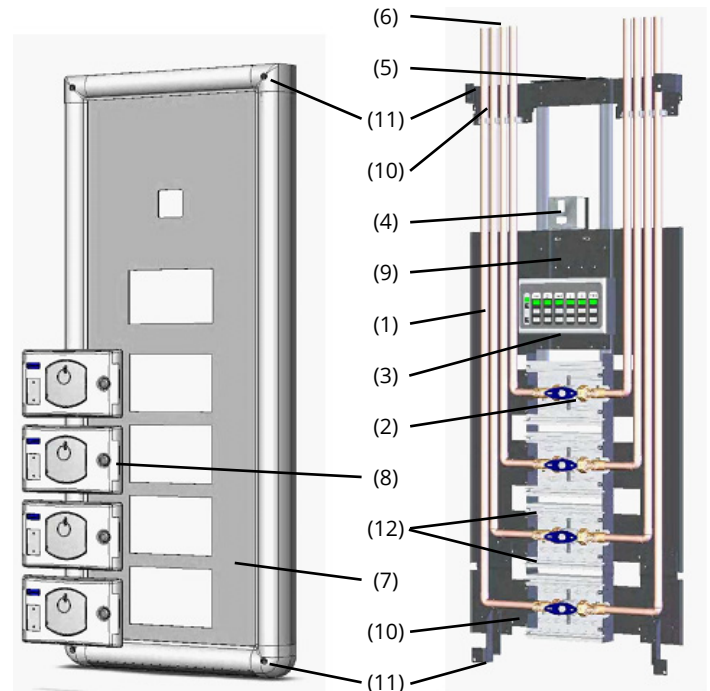


Figure 1 - structural integrity of the terminal unit.

2. General Information

Device Description

The device shall operate in a manner that complies to both HTM 02-01 and ISO 7396-1 requirements. This device is defined within ISO 7396-1 as providing isolation to sections of the pipeline distribution system for maintenance, repair, planned future extensions and to facilitate periodic testing.

Intended Use of the device

The device is intended to work in conjunction with other devices within the medical gas pipeline system (MGPS) to assist with maintaining continuity of the medical gas and vacuum supply throughout the hospital to local connection points for eventual introduction or removal of gas and fluids to or from the human body.

The device assists with the continuity of supply by allowing for sections of the MGPS to be isolated while the rest of the system maintains its supply. Gas specific connections are provided to allow for the connection of alternative gas supply in the event of source equipment failure.

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Intended patient population

The device is intended to be used in conjunction with other medical gas and vacuum pipeline equipment in hospitals and have no direct contact with patients. MGPS supply to medical equipment which can be used across any populations & all age groups.

Intended user profile

AVSU Modules are intended for use by appropriately qualified and trained personnel only who have undergone relevant 'HTM 02-01 Authorised Person' (AP) training regarding the safe use of medical gas supply systems.

The device should only be installed, commissioned, operated, and maintained by technicians who are suitably trained with medical gas systems, such as Competent or Authorised Persons as defined in UK Department of Health Technical Memorandum No. 02-01 (HTM 02-01 Part B: Operational Management). The device is intended for use by appropriately qualified technical personnel only. This condition is emphasised in the IFUs.

Reference: HTM 02-01 Medical gas pipeline systems – Part B: Operational Management

Authorised Person (MGPS)

4.21 The Authorised Person (MGPS) is defined as that person designated by the Executive Manager to be responsible for the day-to-day management of the MGPS at a particular site or sites. This includes the issue of permits in accordance with the permit-to-work procedure. The principal responsibilities of the Authorised Person (MGPS) in respect of the permit-to-work procedure are set out in paragraph 6.91. The Authorised Person (MGPS) also has specific duties with regard to VIE installations (see Appendix E).

Competent Person (MGPS)

4.40 The Competent Person (MGPS) is the person who carries out the installation and/or maintenance work on the MGPS. A list of his/her responsibilities and duties is set out in paragraph 6.92. The Competent Person (MGPS) should have received appropriate training and should be on a list of Competent Persons (MGPS). In the case of directly employed labour, this list should be held by the Authorised Person (MGPS); in the case of contracted labour, it should be held by the contractor's Authorised Person (MGPS) or project manager.

Indications

AVSU Modules are used as part of MGPS where an uninterrupted supply of medical gas and vacuum is required. The medical device works in conjunction with other medical devices for the immediate and reliable delivery of medical gas and vacuum to terminal units used for introduction or removal of gas and body liquids in healthcare facilities. In all cases there are medical devices installed between this device and the patient that controls the pressure and flow of gas and vacuum

to safe levels to and from the patient. This device therefore only delivers medical gas and vacuum within specification to the MGPS, not directly to the patient.

Contraindications

If the device sustains any damage or malfunctioning, the assembly or faulty part should be replaced completely. This ensures all damaged components are replaced.

Contraindications for use, warnings and precautions related to the safe use of the devices are detailed in the IFU supplied with the devices. These sections shall be read by the intended user before installing the device and starting to use it.

2.1 Dvice Limitation

The AVSU and AVSU modules are designed for fixed indoor installation in medical gas pipeline systems compliant with HTM 02-01 and ISO 7396-1, providing continuity of supply by allowing sections of the medical gas pipeline system to be isolated while maintaining supply to the remainder of the system. They include gas-specific connections for alternative gas supplies in the event of primary source failure. Installation, operation, and maintenance must be performed only by trained personnel in accordance with manufacturer instructions and applicable standards. Use with non-approved gases, unauthorized modifications, or outside regulated healthcare environments is prohibited.

2.2 Anticipated lifetime

The anticipated lifetime of shut-off valve is 15 years from the date of installation, assuming proper maintenance, service and environmental conditions are met. This estimate is based on product design, historical performance, and internal technical assessments.

2.3 Safe Disposal and Environmental Considerations

At the end of its service life, the Area valve service modules must be decommissioned and disposed of in accordance with local regulations for electronic and hazardous waste.

While the final responsibility for disposal lies with the healthcare facility or authorized service provider, the following guidance is provided by the manufacturer to support safe and environmentally responsible disposal:

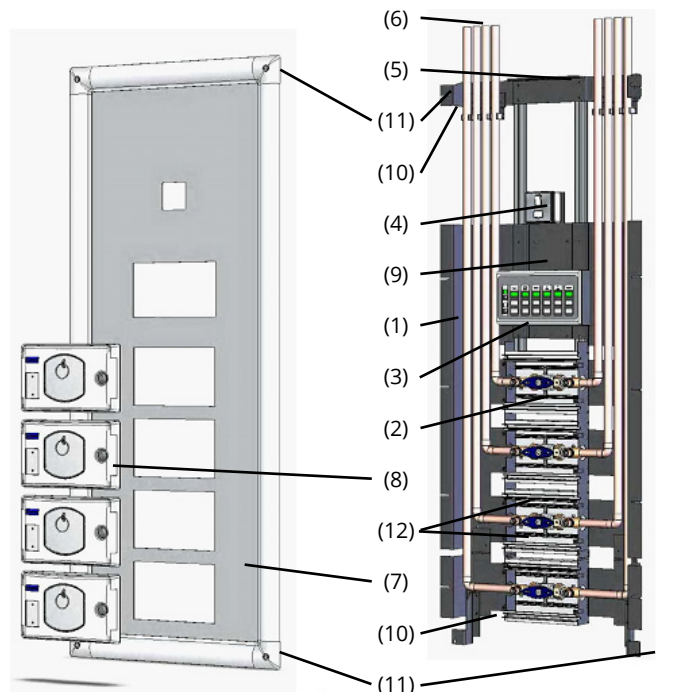
- Ensure all gas supplies connected to the AVSU are safely shut off and isolated at the main supply source.
- Mechanical Parts (Brass or stainless-steel valves, copper pipe stubs, and fittings) can usually be recycled through appropriate waste channels.

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- AVSU modules equipped with alarm functionality contain electrical and electronic components and must be disposed of in accordance with the WEEE (Waste Electrical and Electronic Equipment). For detailed disposal instructions, refer to the Medical Gas Alarm IFU.
- Packaging should be separated and recycled in accordance with local waste segregation policies (e.g., cardboard, plastic, protective foam).

If specific assistance is required for safe disposal, users may contact the manufacturer's technical support team

Figure 2 - Flush Medizone – General Components and Fixing Locations



Item No.	Description
1.	Medizone Structural Steel Work
2.	ZSU2 1st Fix
3.	Alarm Unit (If fitted)
4.	Alarm Fused Isolation point (If fitted)
5.	Top Pipe Support Bracket
6.	Medical Gas Service Stub Pipes
7.	Medizone 2nd Fix
8.	ZSU2 2nd Fix
9.	Main support Fixings
10.	Secondary Support fixings
11.	1st to 2nd Fix Securing Locations
12.	ZSU2 2nd Fix Securing Locations

3. Installation - First fix

3.1 Structural Loading Requirements

The characteristics of the wall, fasteners and fixings must ensure that all Medizone loads are taken and transferred safely. Regional construction regulations must be adhered to.

Note...Parts supplied as part of the Medizone system are not liable to wear, corrosion, material fatigue or ageing. Any supporting structure such as concrete or prefabricated metal frameworks are out of the control of BeaconMedæ and therefore a judgement shall be made by a competent materials expert as to the safety factor to be applied to these structures.

3.2 Installing the Medizone first fix

This section involves the Medizone's supporting steelwork, which contains the valve assemblies, pipe work etc. There are 2 options for installation depending on whether the medizone is to be mounted on the surface of the wall or flush to the wall.

3.3 Assessment of supporting wall and fasteners

See table 1 for estimated weights for the medizone units to assist in determining suitability of supporting wall and fastenings. If in doubt consult advice from the building material's and/or fastener's supplier. For flush installations only, the wall must be prepared with the correct cut out details prior to installation (See figure 3 for details). Prior to installing a flush unit additional strengthening of the wall may be required to safely support the medizone unit.

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Table 1: Approximate Medizone Weights (All units are based on 2.4m ceiling height)

Medizone Type	1st Fix Unit	2nd Fix Unit	Total
1 Gas Surface	18 kg	7.5 kg	25.5 kg
1 Gas Flush	19 kg	5.0 kg	24.0 kg
2 Gas Surface	20 kg	7.5 kg	27.5 kg
2 Gas Flush	21 kg	5.0 kg	26.0 kg
3 Gas Surface	22 kg	7.5 kg	29.5 kg
3 Gas Flush	23 kg	5.0 kg	28.0 kg
4 Gas Surface	27 kg	8.0 kg	35.0 kg
4 Gas Flush	29 kg	5.5 kg	34.5 kg
5 Gas Surface	32 kg	9.0 kg	41.0 kg
5 Gas Flush	35 kg	6.0 kg	41.0 kg
6 Gas Surface	37 kg	9.5 kg	46.5 kg
6 Gas Flush	41 kg	6.5 kg	47.5 kg

Note...The above table is for medizone units to suite a 2.4 m ceiling height. To estimate the weight of larger units add 7 kg per extra metre for surface units, and add 5 kg per extra metre for flush units.



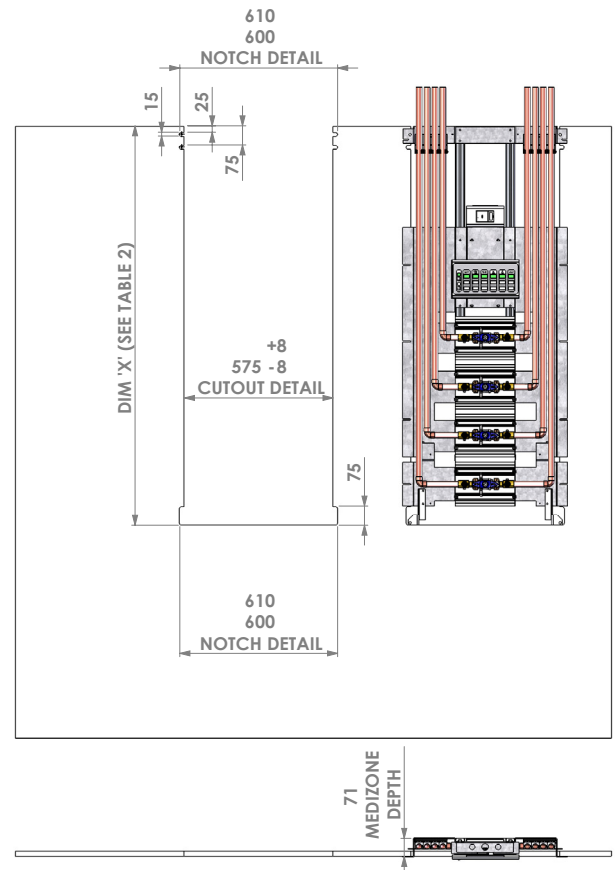
WARNING!

1. THE MEDIZONE UNITS CAN WEIGH IN EXCESS OF 40 KG. USE PROPER LIFTING EQUIPMENT AND TECHNIQUES WHERE NECESSARY. FAILURE TO DO SO CAN RESULT IN PERSONAL INJURY OR EQUIPMENT DAMAGE.

2. IMPROPER SELECTION OR USE OF THE FIRST FIX MOUNTING SCREWS AND FIXINGS MAY CAUSE THE MEDIZONE STRUCTURE TO FALL. CONSULT THE SUPPLIERS ADVICE FOR CORRECT SELECTION AND INSTALLATION.

Note...None of the fastening options for connecting the first fix to the supporting wall are supplied with any of the Medizone systems, as these should be selected to suit the requirements of the installation.

Figure 3 - Flush medizone cut out details



Note...If no alarm and no access panel and ceiling height 2400 mm or greater, reduce cutout length by 200 mm.

3.4 Mounting the first fix carcass

There are 2 options for installing the medizone unit. One is to mount the unit on the surface of the wall; the second is to mount the unit flush to the wall.

3.5 Surface Carcass Mounting

For a surface installation the first fix plate supports the entire weight of the medizone unit, while the additional fastenings just hold the unit firmly against the wall.

Note...Packing may be required if the wall is not sufficiently flat.

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Figure 4 - Surface Medizone Support Bracket Mounting Details

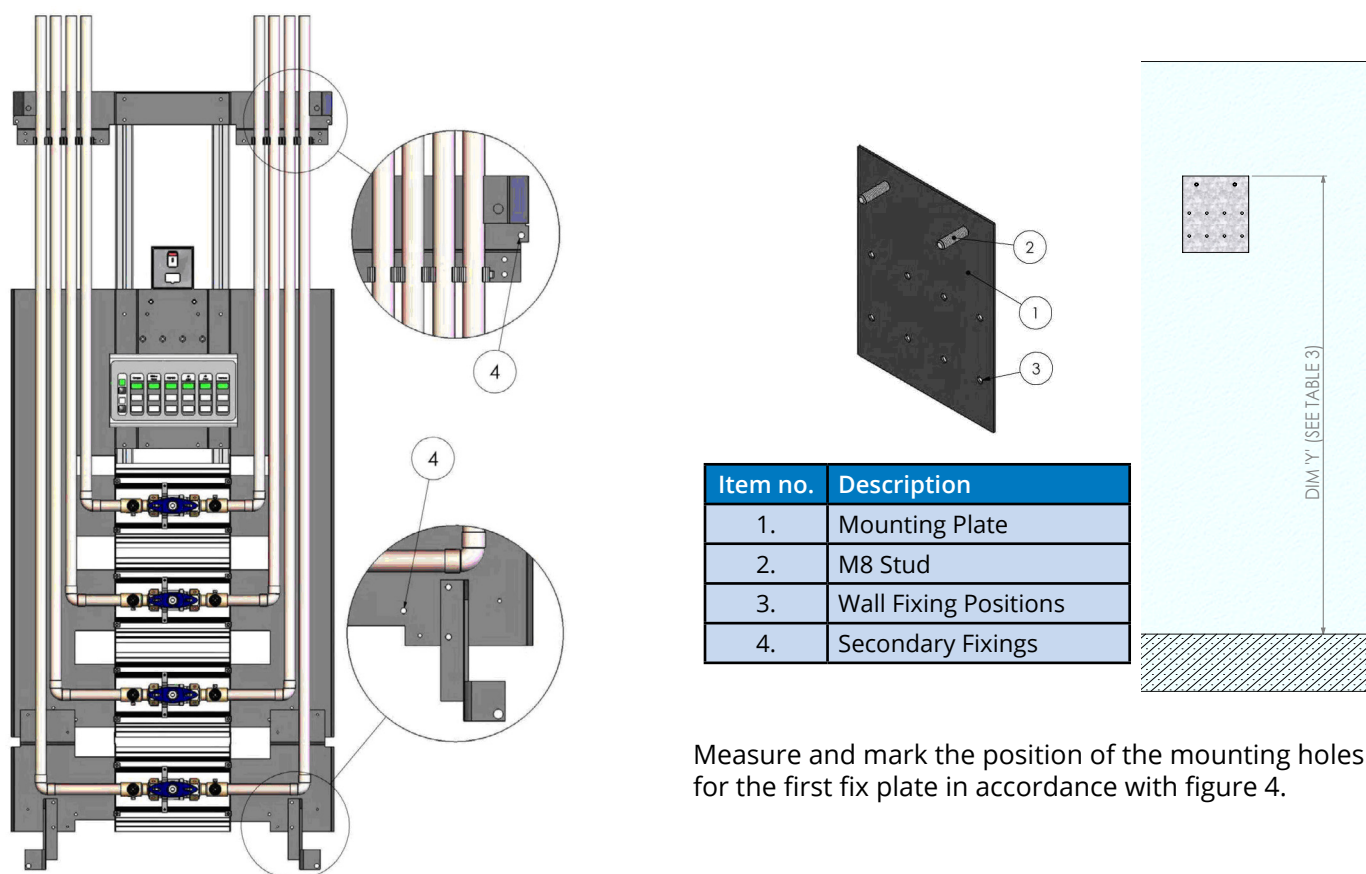


Table 2: DIM 'X' Calculations for Flush Medizone Installation

Medizone Configuration	Ceiling Height from 2000 to 2200	Ceiling Height from 2201 to 2400	Ceiling Height from 2401 to 2800
1-3 Gas	X = 1173		X = Ceiling Height - 1227
1-3 Gas with Alarm	X = 1173	X = Ceiling Height - 1027	
1-3 Gas with Alarm & Access Panel	X = 1373		X = Ceiling Height - 1027
4 Gas	X = 1363		X = Ceiling Height - 1037
4 Gas with Alarm	X = 1363	X = Ceiling Height - 837	
4 Gas with Alarm & Access Panel		X = 1563	X = Ceiling Height - 837
5 Gas		X = 1553	X = Ceiling Height - 847
5 Gas with Alarm		X = Ceiling Height - 647	
5 Gas with Alarm & Access Panel			X = Ceiling Height - 647
6 Gas			X = Ceiling Height - 657
6 Gas with Alarm			X = Ceiling Height - 457
6 Gas with Alarm & Access Panel			X = Ceiling Height - 457

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Table 3: DIM 'Y' Calculations for Surface Medizone Installation

Medizone Configuration	Ceiling Height from 2000 to 2199	Ceiling Height from 2200 to 2399	Ceiling Height from 2400 to 2800
1-3 Gas	$Y = 2200 - (2400 - \text{Ceiling Height})$		$Y = 2200$
1-3 Gas with Alarm	$Y = 2000 - (2200 - \text{Ceiling Height})$	$Y = 2000$	
1-3 Gas with Alarm & Access Panel	$Y = 2000 - (2400 - \text{Ceiling Height})$		$Y = 2000$
4 Gas	$Y = 2200 - (2400 - \text{Ceiling Height})$		$Y = 2200$
4 Gas with Alarm	$Y = 2000 - (2200 - \text{Ceiling Height})$	$Y = 2000$	
4 Gas with Alarm & Access Panel		$Y = 2000 - (2400 - \text{Ceiling Height})$	$Y = 2000$
5 Gas		$Y = 2200 - (2400 - \text{Ceiling Height})$	$Y = 2200$
5 Gas with Alarm		$Y = 2000$	
5 Gas with Alarm & Access Panel			$Y = 2000$
6 Gas			$Y = 2200$
6 Gas with Alarm			$Y = 2000$
6 Gas with Alarm & Access Panel			$Y = 2000$

Note...Ceiling Height refers the the height from floor level to just below the finished ceiling

Install the selected supporting fixings in accordance with supplier's guidelines and secure the first fix plate.

Position the medizone first fix on to the M8 studs (see figure 4), and secure back to the wall using the M8 nuts and washers. Depending on the wall's flatness packing may be required to prevent deformation of the medizone steelwork.

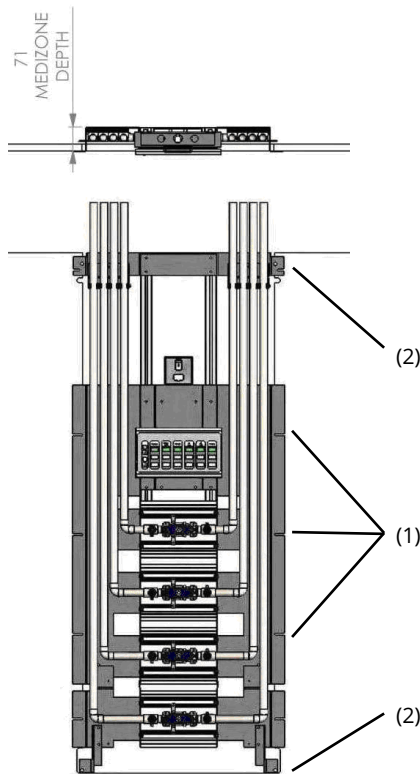
Drill and fit secondary wall fixings where shown on figure 4, and secure back to the wall. Depending on the wall's flatness packing may be required to prevent deformation of the medizone steelwork.

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3.6 Flush Carcass Mounting.

For a flush installation the unit is supporting by fixings along the side of the Medizone (See Figure 5).

Figure 5 – Flush Mount Fixing Details



Item no.	Description
1.	Main Support Fixings
2.	Secondary Support Fixings

Note...Packing may be required if the wall is not sufficiently flat.

Position the 1st fix unit within the cut out previously prepared (See figure 3). Mark the mounting positions as shown on figure 5.

Install the selected wall fixings in accordance with supplier's guidelines.
Replace the 1st fix unit and secure back to the wall fixings.

3.7 Brazing to Medizone Stub Pipes



WARNING!

1. ONLY COPPER TO COPPER BRAZING IS ALLOWED ON SITE. ALL BRAZING MUST BE CARRIED OUT IN ACCORDANCE WITH EN 737-3 OR HTM02, WHICH SPECIFY A DRY, OIL FREE NITROGEN PURGE.

2. ENSURE PIPELINE IS PROPERLY ISOLATED IN ACCORDANCE WITH REGIONAL STANDARDS BEFORE CARRYING OUT ANY MODIFICATIONS

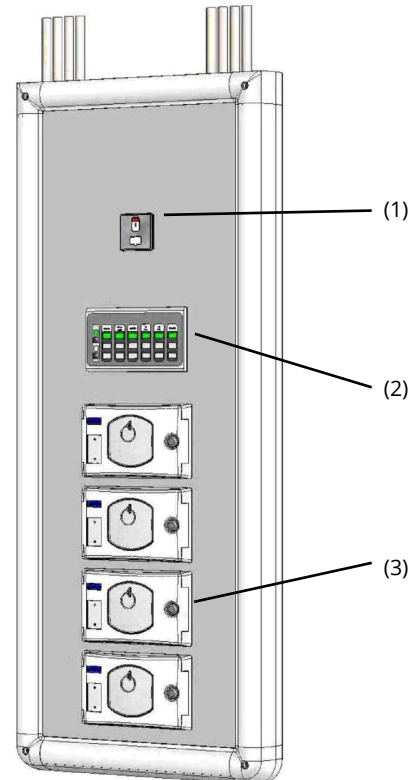
Extend incoming pipe work up to the gas stub pipes and braze in position ensuring that you are maintaining the correct gas service and direction of flow.

Note...Each gas stub pipe should be labelled with the gas type and direction of flow. If in doubt seek advice.

3.8 Electrical Connection of Alarm if Fitted

The supply for feeding the Medizone's alarm panel will be connected via a double pole fused switch fitted with a 3 Amp fuse in accordance with wiring regulation BS 7671. The double pole fused switch can be found in the top section of the medizone unit (See figure 6).

Figure 6 – Medizone Layout



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Item No.	Description
1.	Double Pole Fused Isolation for Alarm
2.	Alarm unit
3.	ZSU2

⚠ WARNING! ENSURE THAT THE POWER IS ISOLATED AND REMAINS ISOLATED USING THE PROCEDURE LAID DOWN BY THE PARTICULAR HOSPITAL. THE POWER SHOULD NOT BE TURNED ON UNTIL FINAL COMMISSIONING OF THE ALARM'S ELECTRICAL SYSTEM.

Note...Ensure that all electrical work is carried out in conformance with any regional standards.

Route conduit with the mains supply cables to the location of the double pole fused switch's terminal box.

Thread cables into the terminal box via the gland holes and connect the conduit to the terminal box using a conduit gland.

Prepare the cable ends and connect to the terminals as shown in the wiring diagram.

3.9 Earth Bonding of the Medizone Unit.

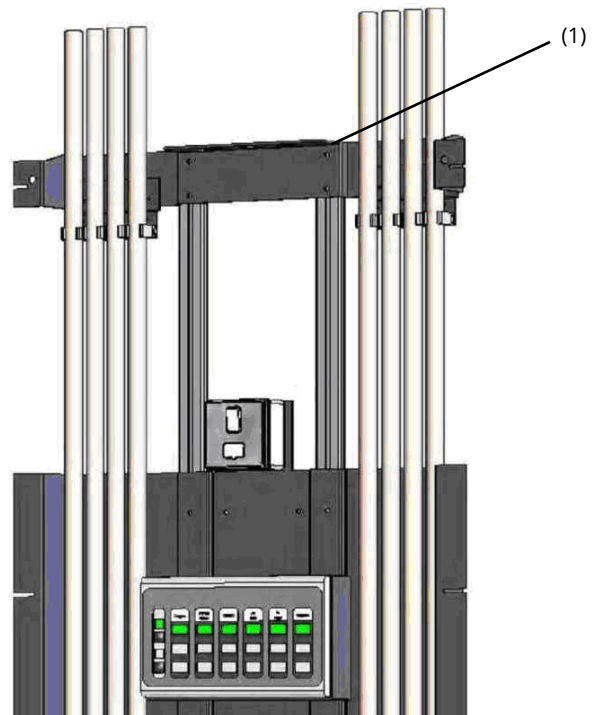
In the event of an electrical fault resulting in a voltage passing through the Medizone unit the earth bonding must be correctly installed to prevent electric shock hazards.

⚠ WARNING! ENSURE THAT THE POWER IS ISOLATED AND REMAINS ISOLATED USING THE PROCEDURE LAID DOWN BY THE PARTICULAR HOSPITAL. THE POWER SHOULD NOT BE TURNED ON UNTIL FINAL COMMISSIONING OF THE ELECTRICAL SYSTEM.

Note...Ensure that all electrical work is carried out in conformance with any regional standards.

At the top of the Medizone, a 16 mm² earth conductor must be brought in and attached where shown in figure 7. The ring crimp terminal supplied should be fitted using the lockwashers, screw and nut also supplied.

Figure 7 – Earthing Stud Location



Item No.	Description
1.	Earthing Stud Location.

Note...The earthing stud may be on opposite side depending on pipe earthing arrangement.

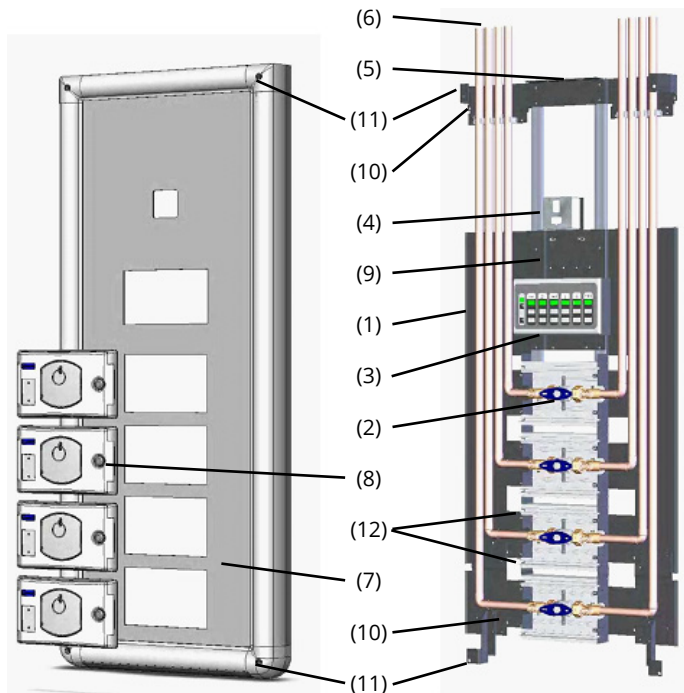
Check for protective earthing of all pipelines after brazing is complete. There is no earthing provided for the upstream pipe work, as this should be earthed at the entry to the building or exit from the plant/manifold room. Normally all pipelines should be earthed at the entry point of the pipes to the building, zone or ward. If pipes do not have a sound connection to earth, an earth strap must be fitted as part of the electrical connection.

4. Medizone Second Fix Installation

The method for securing the second fix is the same for both surface and flush units. The main support points are in each corner of the unit. The fixings points on the ZSU2 1st fix are utilised to tie the unit firmly back to the wall (See figure 7).

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Figure 8 - Medizone Second Fix Installation – General Components and Fixing Locations



Item No.	Description
1.	Medizone Structural Steel Work
2.	ZSU2 1st Fix
3.	Alarm Unit (If fitted)
4.	Alarm Fused Isolation point (If fitted)
5.	Top Pipe Support Bracket
6.	Medical Gas Service Stub Pipes
7.	Medizone 2nd Fix
8.	ZSU2 2nd Fix
9.	Main support Fixings
10.	Secondary Support fixings
11.	1st to 2nd Fix Securing Locations
12.	ZSU2 2nd Fix Securing Locations

Remove alarm and double pole fused switch second fix (If fitted).

Place the 2nd fix in position aligning the fixing locations shown in figure 8.

Secure the 2nd fix in each corner using the M6 cap head screws (Supplied with unit), and fit the screw caps.

Fit the ZSU2 second fixes where shown in figure 8 using the M4 screws supplied with unit.

Replace alarm and double pole fused switch second fixes (If fitted).

5. Commissioning

Medical Gas System

Commissioning of the BeaconMedaes Medizone medical gas system with ZSU2 valve units fitted shall be completed in accordance with the installation contract, HTM 02-01 or International Standard as applicable.

Personnel carrying out the commissioning procedure must be qualified, competent and conversant with the information contained in this manual.

Alarm System (If Fitted)

Ensure that the alarm system operates within the specified parameters for normal operation and fault conditions in accordance with the installation contract, HTM 02-01 or International Standard as applicable.

See documentation supplied with the alarm system or consult manufacturer for more details.

Electrical installation (If required)

Every installation shall be inspected and tested during erection of the electrical system, and after completion.

During inspection and testing precaution should be taken to prevent danger or damage to persons, property or equipment. The electrical system will be inspected to ensure that the system has been correctly selected and erected in accordance with BS 7671 or appropriate international standard, and that there is no visible damage that may impair safety.

6. Operating Instructions

General Information

When the Medizone AVSM has been installed and commissioned and the gas distribution system is in use, the ZSU door can be locked and the key/keys placed in the control of an 'Authorised Person' as defined in HTM 2022 and HTM 02-01.

Medizone AVSMs are typically located at the entrance of a hospital ward/department. Staff in areas that have medical gas pipeline systems must ensure that they are aware of the location of each AVSM.

Each isolation valve is fully closed when the handle is at 90° to the pipeline, and fully open when the handle is parallel to the pipeline. The valve handle takes only a quarter turn from fully open to fully closed. Each isolation valve is labelled with a gas-specific fascia plate marked OPEN and CLOSED.

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Isolation Procedure

Conform the areas to be isolated by the label adjacent to Area Valve Service Module.
Check the patients connected to the system are provided with alternative gas supplies.
Inform the Authorised Person (MGPS) at the earliest opportunity after the emergency valve has been closed.

Emergency Access

Emergency Access - Breakable Pull Out Window

The window is screen printed with PULL IN EMERGENCY AND CLOSE VALVE, below a ring pull. Removing the window during an emergency enables the valve to be shut off whilst the door remains locked.

In the event of Fire

In the event of a fire involving, or likely to involve, the MGPS or in the event of a fire situation which necessitates the area being evacuated, the Designated Nursing Officer / Designated Medical Officer must be satisfied that the welfare of patients is not compromised before they perform the emergency isolation of the medical gas supply.

7. Maintenance

Introduction

BEACONMEDÆS Medizones are designed to operate with the minimum amount of maintenance. Regular routine maintenance operations are recommended to prove the Medical gas system integrity. Maintenance operations are carried out in accordance with the planned preventative maintenance contract purchased by the customer. All maintenance work must be carried out by a competent person who must be fully conversant with the procedures and standards required when working on Medical gas systems.

Service and Maintenance is limited to replacement of worn or damaged components

⚠ WARNING! Obtain a work permit before commencing any work on a Medical Gas Installation.

⚠ WARNING! It is essential that only genuine BEACONMEDÆS spare parts are fitted during maintenance.

Tools and equipment

No special tools are required, however all common hand tools used must be clean, completely free of oil and grease and checked for serviceability before commencing maintenance procedures. All necessary spare parts must be obtained before commencing work.

Cleaning

Do not use abrasive or solvent based cleaning solutions. If necessary clean the external length of hose using distilled water.

Minimum Requirements

Minimum requirements for routine inspections, checks and maintenance are given in Table 8-1 and must be observed in full to ensure continued safe operation of AVSUs.

Repair Operations

For maintenance and repair:

Unlock the door to gain access to the valve, NIST connector, and blanking plate.

Gas specific NIST hoses may be connected to either side of the valve whilst maintaining working pressure.

If it is necessary to remove a blanking/through plate, the system must be de-pressurized on the side of the valve the plate is to be changed.

8. Fault Diagnosis

These mechanisms are extremely robust and if a unit fails to operate, it is probably mechanically damaged and should be replaced.

Gas leaks should be assessed and O-ring seals replaced as required.

Note: Failure through misuse or abuse is usually not repairable, and is not covered by the manufacturer's warranty.

9. Spares

For all Service Spares enquiries, contact the BeaconMedaes Spares Department, giving as much of the following information as possible:

Product Part Number

Lot/Batch Number:

Approximate date of purchase

Medizone AVSMs are expected to provide trouble-free service without the need for a large holding of spare parts.

Area Valve Service Unit Module - Medizone

5 Yearly		•	•	•	•	•	•	•					•	•
Annually		•	•	•	•	•	•	•		•			•	•
Quarterly		•	•	•	•				•		•	•		•
Monthly			•	•	•									
Weekly			•	•	•									
Daily			•	•	•									
Commissioning		•	•	•	•	•	•	•	•	•	•	•	•	•
Actions	Inspection, Checks and Tests:													
	Visually inspect the unit for damage or defects													
	Check security of the emergency window/door													
	Check the door is locked													
	Check integrity of emergency window													
	Check that the isolation valve operated freely													
	Ensure Medizone is clean and labelling is readable													
	Check blanking plate is available in the Medizone for future use													
	Check isolation valve is correctly labelled re- area served													
	Check security of fixings/mountings													
	Check correct gas identification labelling and colour coding													
	Check NIST gas -specificity using test probes													
	Electrical connection and supply integrity (if alarm is fitted refer to MP26 User Manual)													
	Line pressure alarm settings													

Table 5 Inspection and Maintenance Schedule

10. Reporting Serious Incidents

In accordance with Regulation (EU) 2017/745 (MDR), a notice to the user and/or patient that any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

A serious incident is defined as any incident that directly or indirectly led, might have led, or might lead to:

- The death of a patient, user, or other person
- The temporary or permanent serious deterioration of a patient's, users, or other person's state of health
- A serious public health threat.

These events may occur during device use, due to device failure, malfunction, labeling error, or IFU omission.

User Responsibilities

The user or healthcare professional should report any suspected serious incident without delay (Immediately, but no later than 2 calendar days after the manufacturer becomes aware of the threat.)

If a serious incident is suspected, users must:

- Immediately discontinue use of the device, if safe to do so
- Retain the device (if possible) for investigation
- Notify the manufacturer without delay using the contact information below
- Report the event to the local competent authority of their country as required

Contact Information for Reporting Serious Incidents

- Manufacturer: www.beaconmedaes.com
- Support Email: BMCS@beaconmedaes.com
- Phone: 01246 474242
- Authorized Representative (EU): Atlas Copco Airpower n.v. Boomsesteenweg 957 2610 Wilrijk-Belgium
- Competent Authority: https://health.ec.europa.eu/md_authorities

11. Online access

IFUs are available in digital format on the BeaconMedaes official website HTM/ISO products (beaconmedaes.com), where the latest versions can be accessed and downloaded. For previous versions, end users may contact us via the "Request Information" section on the website.



Tel: +44 (0) 1246 474242
www.beaconmedaes.com



Atlas Copco Airpower n.v.
Boomsesteenweg 957
2610 Wilrijk - Belgium



BeaconMedaes Greaves Close Markham Vale
Chesterfield S44 5FB UK

