

## **Gem 10® Terminal Unit SPECIFICATION**

### **Gem 10® Terminal Unit**

The medical gas terminal units shall conform to BS EN ISO 9170-1:2008 and accept probes to BS5682: 1998. Terminal units shall be capable of single-handed insertion and removal of the medical gas probe. The anaesthetic gas scavenging (AGS) terminal unit shall conform to BS6834: 1987. The wall mounted first fix assembly shall consist of brass pipeline termination block with copper stub pipe secured between a back plate and a gas specific plate to allow limited radial movement of the copper stub to align with the pipeline. The gas specific plate shall be permanently fixed to the backplate by means of tamperproof screws locked in position with an anaerobic curing adhesive. The first fix shall incorporate a maintenance valve (except for vacuum) and a test plug. The test plug shall provide an effective blank to enable carcass pressure testing. The second fix plastic components shall be manufactured with the pin index permanently moulded into the gas specific socket. The socket assembly shall retain a capsule assembly, containing the check valve and probe 'O' ring seals. The replaceable capsule assembly shall enable all working parts subject to wear through usage to be replaced as a factory tested assembly, thereby reducing maintenance time. Each termination block assembly shall be pressure tested by the pressure decay method.

### **Gas Specificity**

Terminal units shall be gas specific and only accept the correct medical gas probe. Gas specific components shall be pin-indexed to ensure that a correct gas specific assembly is achieved so that in normal course of dismantling for repair or maintenance, parts from other gases cannot inadvertently be used. Wall mounted terminal units shall incorporate an anti-rotation pin to engage with connected downstream medical equipment ensuring correct orientation.

### **Materials**

All screws, probe roller pins, locking springs and the anti-rotation pin shall be manufactured from stainless steel. The second fix assembly shall be incorporate three injection moulded parts in fire-retardant nylon 66. All wetted parts (except seals) shall be brass or copper. Copper stubs pipes shall be manufactured from phosphorous de-oxidised non-arsenical copper to BS EN 1412:1996 grade CW024A, manufactured to metric outside diameters in accordance with BS EN 13348:2001 R250 (half hard). All elastomeric seals shall be manufactured from Viton with a Shore hardness of 75.

### **Pipeline Connections**

Terminal units installed in walls, bedhead trunking, headwalls or fixed pendants shall be connected to the pipeline with a copper stub pipe. Pressure gases and vacuum shall incorporate a 12mm copper stub pipe with a swaged end for direct connection to a 12mm O/D copper tube without the need for an extra fitting, thereby requiring only a single brazed joint to be made. Terminal units for anaesthetic gas scavenging shall incorporate a 15mm O/D copper stub pipe.

Terminal units installed in booms or moveable pendants shall be attached to their respective flexible gas hose by a gas specific non-interchangeable screw thread (NIST) fitting to BS EN 739:1998. Terminal units shall be fitted with a male NIST and nut for connection to hoses with a female NIST connection.

### **Performance**

Pressure drops across the terminal unit shall comply with clause 6.3 of BS EN ISO 9170-1:2008. The flow/pressure drop characteristics for the Gem 10® are shown below with the maximum allowable value from BS EN 737-1: 1998 shown in parenthesis.

Nominal pressure (kPa)	Test pressure (kPa)	Flow (l/min)	EN 737-1 limit (kPa)	Gem 10 (kPa)
400	320	60	15	1.18
400	320	200	70	23.14
700	640	300	70	43.57
Vacuum	*40	40	15	6.57

\*Absolute pressure

### **CE Marking**

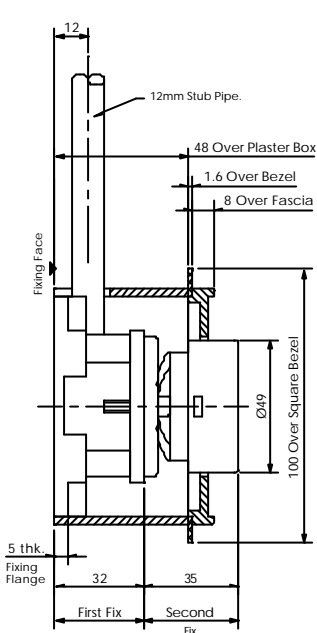
The standard range of BeaconMedaes Gem 10® Medical Gas Terminal Units and Gem 10® Conversions are 'CE' marked under the Medical Devices Directive 93/42/EEC with approval from notified body no. 0088 (Lloyd's Register Quality Assurance). Under this directive, the specified products are classified as Class IIb Medical Devices.

### **Warranty**

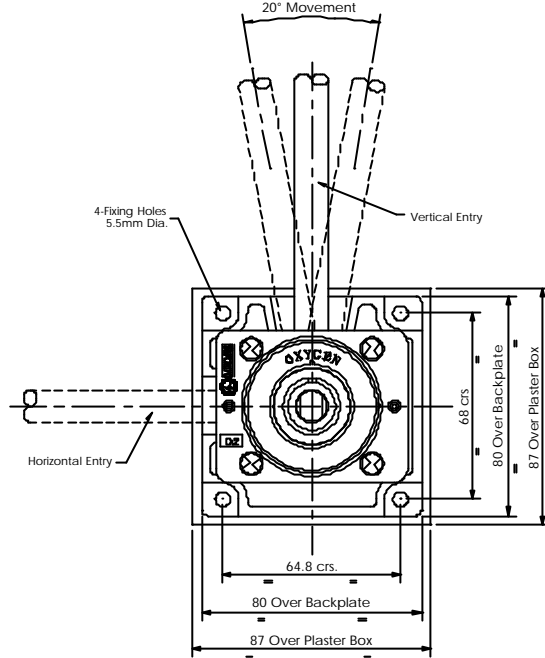
The terminal units shall have a three-year warranty, subject to the recommended minimum routine maintenance operations being carried out by correctly competent persons.



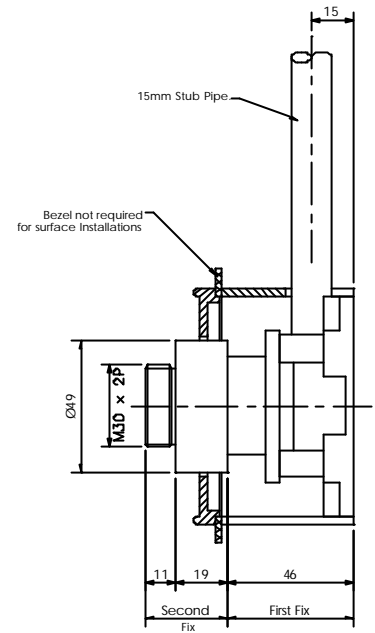
## Gem 10 Terminal Unit Typical Configurations



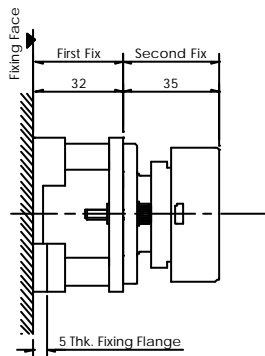
Medical Gases and Vacuum



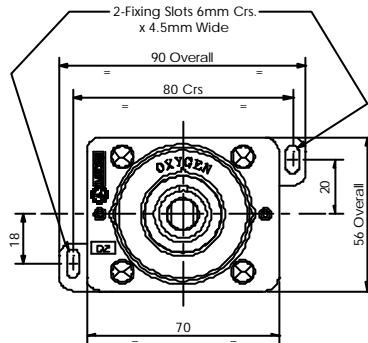
Wall Mounted Terminal Units



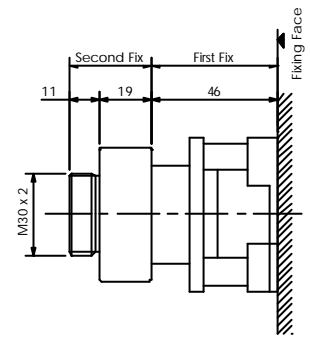
Anaesthetic Gas Scavenging



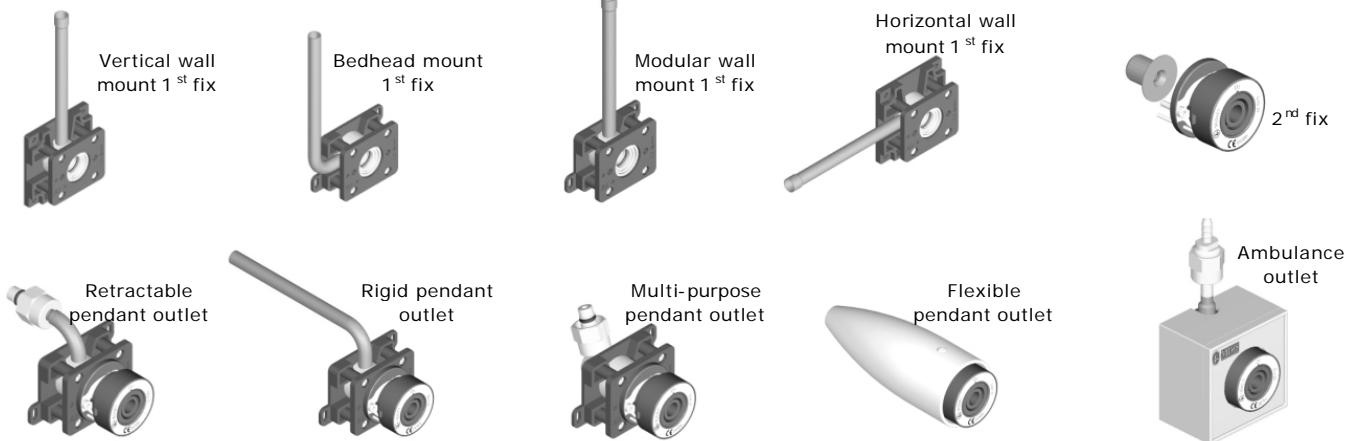
Medical Gases and Vacuum



Other Terminal Units



Anaesthetic Gas Scavenging



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