Flexible, Rigid and Retractable Pendants

SPECIFICATION

Rigid & Retractable Pendants
The pendant shall be designed for installation into operating theatres and anaesthetic rooms, providing medical gases, electrical power, data and extra low voltage services as specified by the customer, in a convenient prefabricated assembly. The pendant shall be supplied pre-piped, pre-wired and fully tested. Pendants shall be manufactured and installed to provide a 2000mm clearance above finished floor level (in retracted position for retractable pendants). The pendant shall fully comply with HTM 2022, HTM02-01 NHS Model Engineering Specification C11, BS EN ISO 11197 and the IEE Wiring Regulations.

Regulations
The pendant shall be capable of surface of concealed mounting, with a shroud extension being provided for surface installations. A separate shroud shall be supplied to enclose the 1st fix mounting arrangement, electrical terminations and gas service connections. The shroud shall be adjustable to compensate for variation in the finished ceiling thickness.

The body of the pendant shall be manufactured from 1.6mm thick Zintec steel. The pendant body shall be supplied with an 'easy clean' high quality RAL9002 polyester powder coated finish. The gas fascia plate shall be manufactured in 2mm thick grade 304 stainless steel and shall have a non-reflective satin brushed grain finish. All pendants shall have a soft bumper strip around the bottom edge.

The pendants shall be octagonal in section, capable of mounting up to 8 medical gas/vacuum terminal units plus an anaesthetic gas scavenging terminal unit, along with 8 double gang and 8 single gang electric sockets/devices. Medical gas/vacuum services shall incorporate BeaconMedæs GEM terminal units and the anaesthetic gas scavenging disposal system shall incorporate a BeaconMedæs terminal unit to BS EN ISO 9170-2. Medical gas/vacuum services shall be arranged in accordance with HTM 2022 and HTM02-01 recommendations. Electrical installations shall conform to the IEE wiring regulations and BS EN ISO 11197, routed through flexible conduit and terminate in a junction box.

CE Marking
The standard range of BeaconMedæs Flexible, Rigid and Retractable Pendants 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 IIa Medical Devices.

Retractable Pendant
The Retractable Pendant shall be supplied with flexible hoses manufactured to BS EN ISO 5359, with NIST connectors manufactured to BS EN ISO 18082. Gas-specific NIST fittings shall be permanently attached. Pressure gas systems shall incorporate a self-closing check valve in the 1st fix termination to enable hose replacement without disruption of the system. Hoses shall have a minimum internal bore of 6.35mm (1/4") for all pressure gases except surgical air, which shall have a minimum internal bore of 8.02mm in order to provide a higher flow/lower pressure drop for surgical tools. Vacuum hoses shall also have a minimum internal bore of 8.02mm.
The retractable pendant shall extend and retract through a vertical range of 300mm at an approximate rate of 20mm/s and shall be powered by a single-phase linear actuator. The linear actuator shall operate from a 230V, 50 Hz electrical power supply (110V, 60 Hz also available) fused at 5A. An extra-low voltage (12V) remote hand controller shall operate the pendant and internal micro-switches shall break the control circuit at the limits of travel. Thermal overload protection with automatic reset shall be incorporated within the linear actuator control circuits.

**Rigid Pendant**
The Rigid Pendant shall be rigidly piped in accordance with the requirements of BS EN ISO 11197. Flexible hose assemblies shall not be used. The compartment for housing medical gas pipes shall be capable of running up to 9 gas pipes generously spaced to facilitate simple on-site brazing to the piped distribution system. Copper pipes shall be manufactured from phosphorous de-oxidised non-arsenical copper to BS EN 1412: grade CW024A and be manufactured to metric outside diameters in accordance with BS EN 13348: R250 (half hard). Rigid pipes shall be cleaned and degreased to satisfy the requirements of BS EN 15001.

**Flexible pendants**
Flexible pendants are intended for use in operating theatres, anaesthetic rooms and similar medical locations. They are an ergonomic solution for the provision of medical gases at the point of use and are intended to overcome trip hazards associated with trailing hoses. Flexible pendants are supplied pressure and leak tested, and comply with the United Kingdom Department of Health (DoH) publications HTM 02-01, HTM 2022, NHS Model Engineering Specification C11.
# Rigid/Retractable Pendant Order Sheet

<table>
<thead>
<tr>
<th>Pendant Type</th>
<th>Company Name</th>
<th>Date Added</th>
<th>Contact Person</th>
<th>Required Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer/Project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pendant quantity of this configuration</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dim. 'A' mm</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Dim. 'B' or 'C' mm</td>
<td></td>
<td></td>
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<tr>
<td>Surface Mounted Pendant? Yes / No</td>
<td></td>
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<tr>
<td>Pendant Style: Painted (RAL9002)</td>
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<tr>
<td>Stainless Steel</td>
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<tr>
<td>Accessories: Medical Rail Yes / No</td>
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<td></td>
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<tr>
<td>IV Hooks Yes / No</td>
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</tr>
</tbody>
</table>

*Note: All Retractable Pendants have a single piece of Medical Rail fitted for Hand Controller Placement*

## Gases Section

<table>
<thead>
<tr>
<th>Terminal Unit Type</th>
<th>Terminal Unit Gas Selection</th>
<th>BS or DIN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oxygen</td>
<td>Nitrous Oxide</td>
</tr>
<tr>
<td></td>
<td>Medical Air</td>
<td>Surgical Air</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide</td>
<td>Nitrogen</td>
</tr>
<tr>
<td></td>
<td>AGS - EN1172 active only at P5</td>
<td></td>
</tr>
</tbody>
</table>

**Input/Selection Required:**

- BS or DIN
- Terminal Unit Type
- Terminal Unit Gas Selection

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## Electrical Section

**Possible components:**
- UK- Single or Twin Switched (White or Red)
- UK- Single or Twin Unswitched (White or Red)
- UK- Single or Twin Isolated Supply Socket (Blue)
- UK- Single or Twin Unswitched (Blue)
- IEC- Cat 5e Single Gland
- IEC- Cat 5e Twin Gland
- Single Equivalential Socket
- Twin Equivalential Socket
- Single Gang ELV Provision
- German: Single 2PHE, 15VA, White

**Single Gang Faces (P1→P9):**

- Select One of Electrical Sockets Wiring:
  - Ring Mains-Blue/Brown/Earth 2.5 sq.mm
  - Ring Mains-Blue/Brown/Earth 4.0 sq.mm
  - Radial Circuits

**Notes:**
1. All Equivalential Circuits will be 6 sq.mm Radals
2. Only Draw Wires will be provided for ELV components

**Position on Pendant**

- P1 Lower Row
- P2 Lower Row
- P3 Lower Row
- P4 Lower Row
- P5 Lower Row
- P6 Lower Row
- P7 Lower Row
- P8 Lower Row
- P9 Lower Row
- P1 Top Row
- P2 Top Row
- P3 Top Row
- P4 Top Row
- P5 Top Row
- P6 Top Row
- P7 Top Row
- P8 Top Row

**Circuit Name:**

- Radial 1

**Rings:**

- Ring 1
- Ring 2
- Ring 3
- Ring 4
- Radial 1
- Radial 2
- Radial 3
- Radial 4

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**Viewed from Underside of Pendant**

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www.beaconmedaes.com
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<td><strong>Company Name:</strong></td>
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<tr>
<td><strong>Customer/Project:</strong></td>
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<tr>
<td><strong>Contact Person:</strong></td>
</tr>
<tr>
<td><strong>1st Fix Part No.s, Qty:</strong></td>
</tr>
<tr>
<td><strong>Part No. Ordered:</strong></td>
</tr>
<tr>
<td><strong>Part No. Hose Assy.:</strong></td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>Term Unit:</strong></td>
</tr>
<tr>
<td><strong>Service Kit Part No.s, Qty:</strong></td>
</tr>
<tr>
<td><strong>Oxygen:</strong></td>
</tr>
<tr>
<td><strong>Nitrous Oxide:</strong></td>
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</tr>
<tr>
<td><strong>Vacuum:</strong></td>
</tr>
<tr>
<td><strong>N2O:</strong></td>
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In an effort to continuously improve our products, the right is reserved to change the specification of the items described herein at any time. Please contact us for further information and up to date specifications.

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