

Technical Specification

Rigid & Retractable Pendants

Product Description

The rigid and retractable pendants 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. The pendant shall be supplied pre-piped, pre-wired and fully tested. The pendant will be supplied and installed to provide a 2000mm clearance (in retracted position for retractable pendant). The pendant shall comply with HTM2022, HTM02-01, NHS Model Engineering Specification C11, BS EN 9170-1, ISO 11197:2004 and the IEE Wiring Regulations.

The pendant shall be capable of surface or concealed mounting, with a shroud extension being provided for the surface first fix installation. The body of the pendant shall be manufactured from 1.6mm steel and be provided with an easy clean powder coated finish.

The pendants shall be square in shape with corners cut and capable of mounting up to 8 medical gas/vacuum terminal units, plus 1 anaesthetic gas scavenging terminal unit. The pendant can also provide up to 8 double gang electric sockets and 8 data sockets.

Medical gas services shall incorporate CPX medical gas terminal units which comply fully with BS EN 9170-1. The electrical installation shall conform with IEE regulations and BS EN 11197:2004, Routed through flexible conduit and terminate in a junction box.

Rigid Pendant

The rigid pendant shall be rigidly piped in accordance with the requirements of BS EN11197: 2004. Flexible hose assemblies shall not be used, The compartment for housing medical pipes shall be capable of running up to 9 gas pipes generously spaced to facilitate simple on site brazing to the medical gas pipeline. Copper pipes shall be manufactured from phosphorous de-oxidised non-arsenical copper to BS1412:1996 grade CW024A and be manufactured to metric outside diameters in accordance with BS EN 13348.

Retractable Pendant

The retractable pendant shall be provided with flexible hoses to BS EN ISO 5359 with NIST connectors manufactured to BS EN 15908. Appropriate NIST fittings shall be permanently attached. Pressure gas system shall incorporate a self-closing check valve to enable hose replacement without disruption to the system. The retractable pendant shall extend and retract through a vertical range of 300mm. and shall be powered by a linear actuator. The linear actuator shall operate from 230V 50Hz electrical power.

1st Fix Assembly

The 1st fix comprises of a 6mm thick flat steel plate into which can be mounted the 1st fix hex NIST assemblies. This assembly is secured to a supporting structure (not supplied) at false ceiling height.

2nd Fix Assembly

The second fix pendant assembly consists of a fabricated white epoxy coated shell. Within the second fix, the customer specific electrical sockets, data outlets and medical gas outlets are fitted.

Low Voltage Electrical

Low voltage electrical sockets shall be incorporated these shall be wired in a ring main circuit. Any number of sockets can be accommodated depending on the length of the unit with a complete choice of British, American, Euro US or German Schuko sockets available. These sockets comply with the relevant standards for each country and are operated as the relevant standards indicate.

Extra Low Voltage Electrical (Communication)

Data sockets, including but not limited to RJ45 and telephone sockets shall be installed in pendant at the time of manufacture.



Definition of Intended Use

The CPX pendant is intended to be used for services for clinical staff in operating theatres or anaesthetic rooms. These services incorporate medical gases and power.

The medical gas terminal unit is intended to be used for the administration of a medical gas from a central supply system via a fixed pipeline in conjunction with other equipment fitted with a probe (quick connector) complying with BS EN 9170-1:2008.

The range of terminal units is suitable for use with the following medical gases;

- Oxygen
- Nitrous Oxide
- 50% Oxygen/50% Nitrous Oxide mixture
- Medical Air
- Surgical Air
- Medical Vacuum

The low voltage power supply is intended to provide power for clinical staff. An adequate number of 13A twin sockets are installed as part of the pendant, to supply electrical power to the various items of non-clinical equipment and obviate the need to use extension leads. The wiring system is selected in accordance with BS7671 wiring regulations.

The extra low voltage electrical equipment is intended to supply data points to the clinical staff. The extra low voltage equipment will be segregated in accordance with ISO1197:2004.

Quality

CPX pendants are manufactured in the UK under BS EN 13485 Medical Devices: Quality Management Systems. All tube is manufactured under strict quality control procedures to ISO 9001:2008.

CE Marking

CPX pendants are CE marked as a Class IIb Medical Device 93/42/EEC with notified body British Standards Institute and stamped CE 0086.

Product Cleanliness

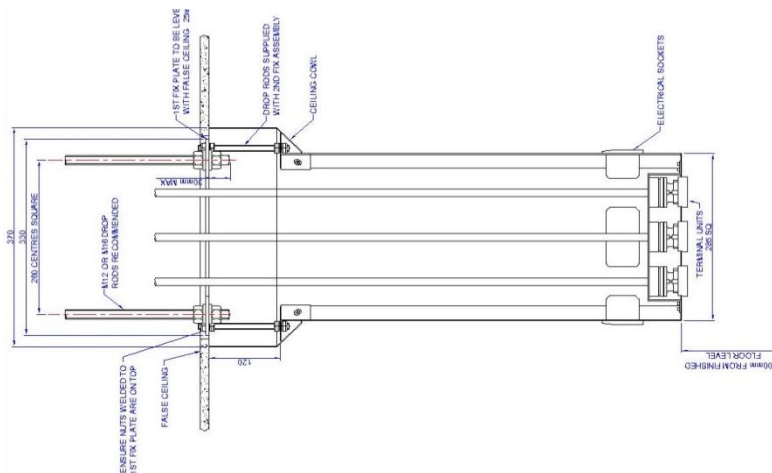
The pendant is cleaned and degreased for oxygen service and free from all particulate matter and toxic residues in accordance with BS EN 13348:2001 and has a maximum carbon level of 0.2mg/dm².

Each assembly is individually end capped and sealed in polythene bags to maintain cleanliness.

Installation Guidelines

Pendant Mounting instructions

- Secure the M12 or M16 drop rods (not supplied) to the ceiling slab at 260mm centres, using appropriate method.
- Ensure the Nuts welded to the 1st fix mounting plate are on top when fitting to the drop rods.
- Ensure the 1st fix mounting plate is level with the false ceiling when tightened to the drop rods.
- Fit the 2nd fix assembly using the M10 drop rods supplied. Ensuring the terminal units are at the height of 2000mm from finished floor level.



Operation

The CPX Pendant has a number of features with simple operations. The unit is supplied completely assembled and ready for installation.

Terminal Unit

The medical gas terminal unit is to be used for the administration of a medical gas from a central supply system via a fixed pipeline in conjunction with other equipment fitted with a probe (quick connector) complying with BS EN 9170-1:2008.

The range of terminal units is suitable for use with the following medical gases;

- Oxygen
- Nitrous Oxide
- 50% Oxygen/50% Nitrous Oxide mixture
- Medical Air
- Surgical Air
- Medical Vacuum

The terminal unit is used to supply gas to the equipment when the appropriate probe has been correctly inserted and will shut-off the gas supply automatically when the probe is disconnected.

It shall not be possible to connect a probe for a different gas into a terminal unit intended and labelled for another gas.

The terminal units are used to supply gases used during anaesthesia for analgesic purposes and to induce narcosis when used in conjunction with an anaesthetic machine or trolley.

The terminal units are used to supply the drive gas to support breathing in conjunction with a lung ventilator during anaesthesia and in intensive care and-or neo-natal units.

The terminal units are used to supply gas for oxygen therapy in conjunction with flowmeters, nebulizers, humidifiers and facemasks.

The terminal units are used supply air to drive surgical tools used during operations.

The terminal units are used for the drainage of excess body fluids in conjunction with a suction controller and suitable receiving system.

The terminal units are used in medical engineering workshops for the testing of medical equipment used in conjunction with medical gases.

Medical vacuum terminal units should not be used for the removal of the smoke produced during laser surgery.

Low voltage Electrical Equipment

The low voltage electrical supply comprises of a number of 13Amp sockets, room and reading lights for the patients and clinical staff.

The low voltage power supply is to provide power and lighting for patient and clinical staff. An adequate number of 13A twin sockets are installed as part of the bed head unit, to supply electrical power to the various items of non-clinical equipment and obviate the need to use extension leads. The wiring system is selected in accordance with BS7671 wiring regulations.

Protective Low Voltage Equipment

Data sockets may be required to allow clinical staff access to the hospital network. Data sockets shall be RJ45 type for cat 5e connections.

