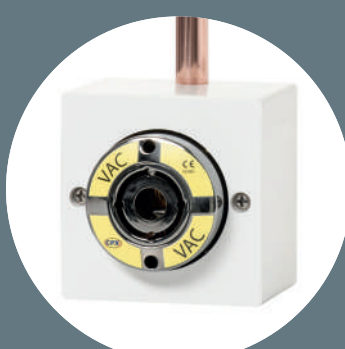
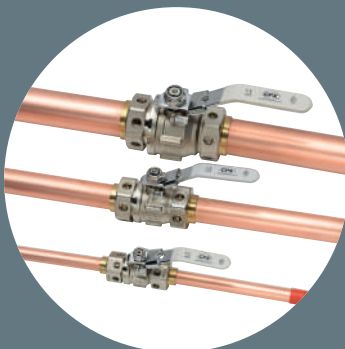




MEDICAL GAS PIPELINE EQUIPMENT

***PRECISION UK Ltd***

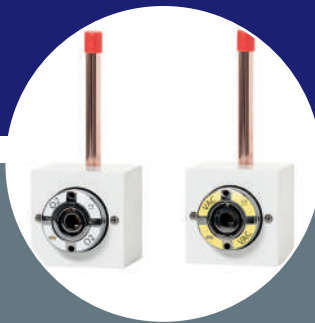


V6.0





# FROM PLANT ROOM TO PATIENT



Precision UK Ltd is a British Manufacturer and World Leader in supplying Medical Gas Pipeline Equipment compliant with HTM 02-01 and ISO 7396.

Operating over two decades and with over 80 years combined experience within the medical gas pipeline industry, Precision UK Ltd is continually striving to identify and embrace the industries specialist requirements thus proving its ability to include all aspects of customer service, product design, standards compliance, cleanliness, packaging and usability required to ensure itself as a winning partner for supply and installations of pipeline equipment.



CPX® is a registered trademark of Precision UK Ltd; all products manufactured are marked with this brand name as a sign of dedication to design and quality.

Precision UK Ltd's core products include Degreased Copper Tube and Fittings, Lockable Line Valves, Nist Pieces, Silver Solder, Pipeline Identification Tape, Munsen Ring Brackets, Area Valve Service Units (Single and Modular), Cylinder Gas Manifolds, Rigid/ Retractable and Multi-Movement Pendants along with Source equipment of Medical Air, Medical Vacuum and AGSS Plants. All products under the CPX Trademark are certified as medical devices and carry the CE 0086 mark, including the our extending product range of ICU Beams, Flow Meters/Therapy Suction Devices, Liquid Oxygen Tanks and Oxygen Generators.

We ensure that our complete range of medical gas pipeline equipment is manufactured in our own UK warehouse, using up to date technology CNC machines and machine tool equipment that provide assurance that all of our products are compliant to British and European Directives. Each product is individually rigorously tested prior to despatch accompanying product certification and end user manuals.

As the only truly British Company accredited to BSI ISO 9001, ISO 134585 and 93/42/EEC, we are continually striving to expand and progress our product range. Stock holding is structured to meet increasing demand. We have over 750,000 products in stock from Degreased Copper Tube and Fittings to Medical Gas Outlets, Manifolds and Plants. We understand our customers' deadline and wholly commit to stock to enable a next day service for the majority of pipeline materials.

We provide a comprehensive design and field survey both in the UK and Export markets, supplying 90% of the UK market and exporting to over 75 countries worldwide. Our extensive network of local partners and distributors enables us to offer an on-site service in all countries, from an advisory role, verification to test and commissioning.



# Specialists in the complete range of HTM02-01, C11 & BS EN 7396 Medical Gas Pipeline Systems







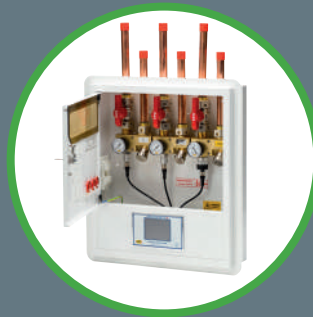
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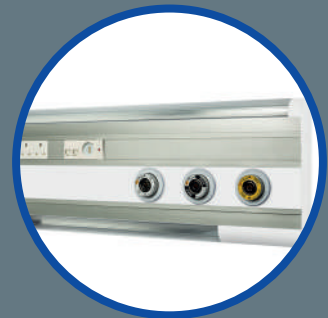
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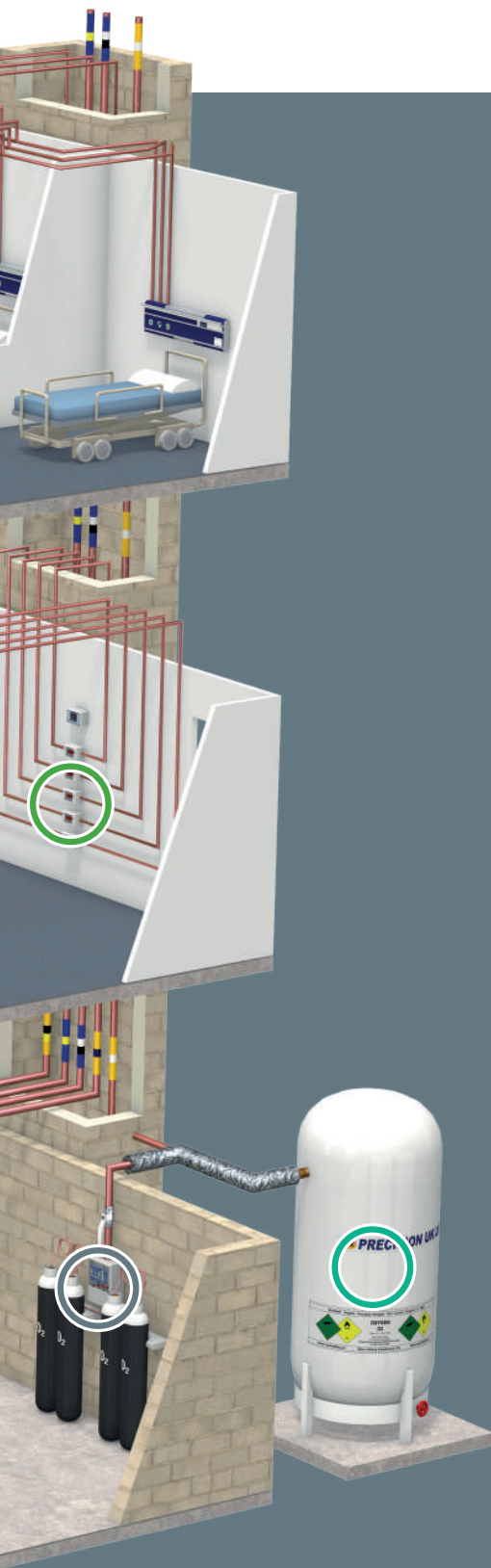
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# Degreased Medical Gas Copper Fittings



CPX end feed copper fittings are manufactured in the UK under BS EN 13485 Medical Devices: Quality Management Systems. They are suitable for jointing degreased medical gas copper tube pipelines compliant to BS EN 13348, BS EN 1057 and BS 2871 Part 1 Table X as quoted in HTM 02-01 and C11.

Exclusively designed for Medical Gas Pipeline Systems (MGPS), CPX copper fittings recognise and embrace the specialist requirements of the medical gas pipeline industry to include all aspects of design, cleanliness, packaging and usability required to become a successful partner for installations of pipelines compliant with HTM 02-01, C11 and BS EN 7396.

**Specific Benefits Include:**

- All CPX degreased copper fittings are engraved with the following information: EN 1254, size, manufacturer details.
- Each fitting is individually bagged in a clear protective polythene bag and sealed to maintain cleanliness
- Each bag is labelled with the degreased specification, product code and production batch number.
- Cleanliness is guaranteed below 0.01 mg/cm² of hydrocarbons on the degreased surface of the fitting.
- All boxes include logical and concise labelling identification.
- **25 Year guarantee.**

**Standards:**

- Designed to meet the requirements of (but not exclusive to):
- EN 1254: Specification for Capillary Copper Fittings
  - BS 684: Specification for Copper Fittings used with Copper Tubes
  - ASTM B280: Cleanliness Testing
  - HTM 02-01: NHS Health Technical Memorandum
  - C11: NHS Model Engineering Specification-Medical Gases
  - BS EN 7396: Medical Gas Pipelines for Compressed Medical Gases and Vacuum
  - BS EN 740: Active Anaesthetic Gas Scavenging Pipeline System
  - CE marked as a Class IIa Medical Device 93/42/EEC with notified body British Standard Institute CE0086

Sizes	Product Code	Fittings
12-108mm	EB	Elbow
12-108mm	EB45	Elbow 45 Degree
12-108mm	SC	Straight Coupling
12-108mm	ET	Equal Tee
12-108mm	FR	Fitting Reducer
12-108mm	RT	Reducing Tee
12-108mm	RC	Reducing Coupler
12-108mm	SE	Street Elbow
15-35mm	RE	Reducing Elbow
Example:	15EB	15mm Copper Elbow

# Degreased Medical Gas Copper Tube



Precision UK's CPX degreased copper tube is 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. CPX tube is the only British manufactured tube that is CE marked as a class IIa Medical Device 93/42/EEC with notified body British Standards Institute under CE0086.

It is suitable for jointing degreased medical gas copper fittings and other medical gas equipment compliant to BS EN 13348, BS EN 1057, BS 2871 Part 1 Table X, EN 7396 and HTM 02-01. CPX copper tube is designed for use in Medical Gas Pipeline System (MGPS) installations and incorporates the specialist requirement of the MGPS industry to include cleanliness, packaging and usability required to attain the levels of quality as stated particularly in HTM 02-01.

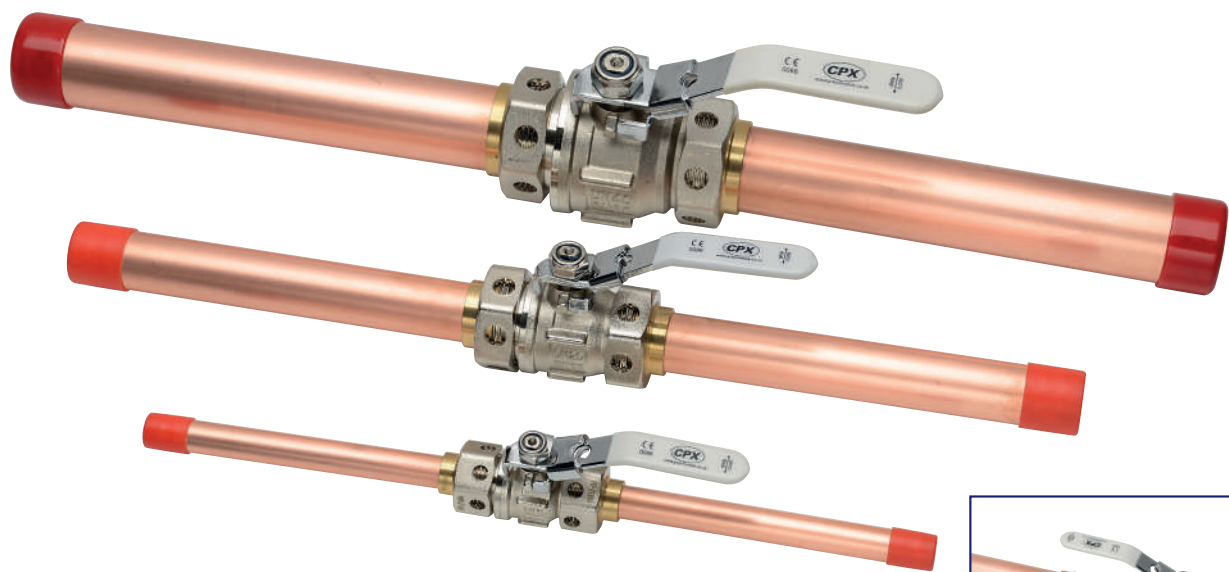
Product Code	Size
12CP	12mm x 0.6mm
15CP	15mm x 0.7mm
22CP	22mm x 0.9mm
28CP	28mm x 0.9mm
35CP	35mm x 1.2mm
42CP	42mm x 1.2mm
54CP	54mm x 1.2mm
67CP	67mm x 1.2mm
76CP	76mm x 1.5mm
108CP	108mm x 1.5mm

*Other thicknesses available on request*

## Specific Benefits Include:

- Each pipe is cleaned to have a maximum carbon level 0.20mg/dm<sup>2</sup>
- Each pipe is individually end capped and bundled in sealed polythene bags to maintain cleanliness
- Chemical composition CU.DHP to ISO 1190-1/CW024A to EN1412
- All copper tube is manufactured under strict quality control procedures to ISO 9001 and CE marked under the **Medical Device Directive 93/42/EEC (CE0086) Class IIa**
- BSI Kitemarked
- Batch numbering for traceability is included on all pipework.
- All copper tube from sizes 12mm through to 108mm are engraved/permanently ink marked with the following information: EN 13348, nominal dimensions, manufacturer details, part no., CE Mark, ♡, Medical Device Directive to 93/42/EEC, time and date of production
- **25 year guarantee**

# Medical Lockable Line Valve & NIST Tee Assembly



The CPX lockable line valve is manufactured in the UK under BS EN 13485 Medical Devices: Quality Management Systems and CE marked with notified body British Standards Institute under the Medical Device Directive 93/42/EEC (CE0086). They are designed to have a tight shut off and blow out proof stem for protection against pressure surges.

They comprise of a 2-piece full bore male threaded nickel plated brass ball valve c/w chrome plated brass ball, blow-out proof stem, stem O-ring, Teflon® ball seals and flat face copper stub pipe assemblies. The copper stub pipe assemblies are manufactured from medical gas copper tube compliant to BS EN 13348 and are factory soldered to brass flat face seal housings chemically cleaned and degreased.

The copper pipe stubs are of sufficient length to enable brazing directly to the MPGS utilising flux less brazing to WKO (82) 1. Flat face housing incorporate Nitrile® or Viton® O-ring seals ensuring 100% gas tight connections.

The chrome plated valve handle is lockable in the open or closed position by way of a sliding device and a brass padlock is provided to prevent unauthorised or inadvertent operation of the valve. For ease of installation all brass padlocks are the same size for the full range of ball valves from 15mm to 108mm.

All line valves are fully pressure tested for valve tightness and leakage and batch numbered for traceability prior to packing and delivery. They are individually end capped and sealed in a clear polythene bag to maintain cleanliness.

## Designed to meet the requirements of

- HTM 02-01: Health Technical Memorandum Medical Gas Pipeline Systems
- C11 NHS: Model Engineering Specification – Medical Gases
- BS EN 7396: Pipelines for Compressed Medical Gases and Vacuum
- BS EN 18082 Non-interchangeable Screw Threaded (NIST) Low Pressure Connectors for Medical Gases
- Medical Device Directive 93/42/EEC (CE0086)

## Suitable for use with the following medical laboratory gases

- O<sub>2</sub>
- N<sub>2</sub>O (Nitrous Oxide)
- O<sub>2</sub>/N<sub>2</sub>O
- Medical and Surgical Air
- Vacuum
- CO<sub>2</sub>
- Helium
- Hydrogen
- Argon
- N<sub>2</sub> (Nitrogen)
- Mixtures of the above

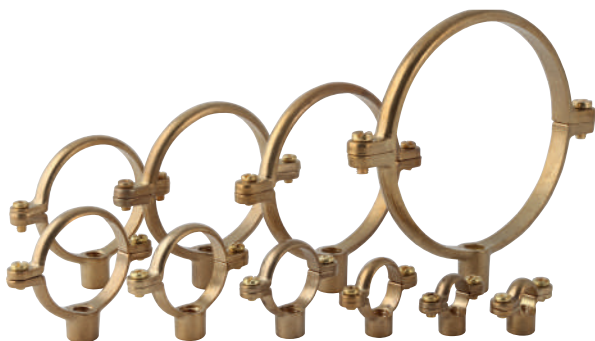
Sizes	Code	Type
12-108mm	LVN	Lockable Line Valve
12-108mm	LVN-GAS	Nisted Lockable Line Valve
Example: 15LVN-O2 Nisted 15mm Lockable Line Valve - Oxygen		



# Pipeline Accessories

We offer the following pipeline installation accessories from our stock to complete the installation to HTM standards:

## Brass Munsen Rings



Munsen Rings manufactured from brass with a single M10 tapping complete with brass screws. M10 to M6 reducing bush available on request.

Suitable for suspending copper tube complying to BS EN 13348 & BS EN 1057 (formerly BS 2871) with metric threaded studding or screws.

## Other bracketry products we stock include:

Hospital Bracket



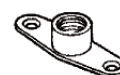
Double Munsen Ring



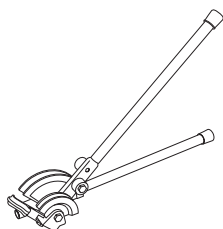
Male Backplate



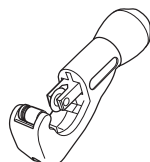
Female Backplate



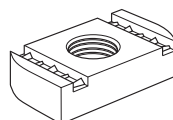
## Pipe Bender



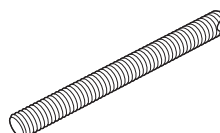
## Pipe Cutter



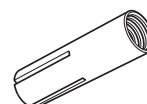
## BZP Channel Nut



## BZP All Threaded Rod



## BZP Drop in Anchor M10



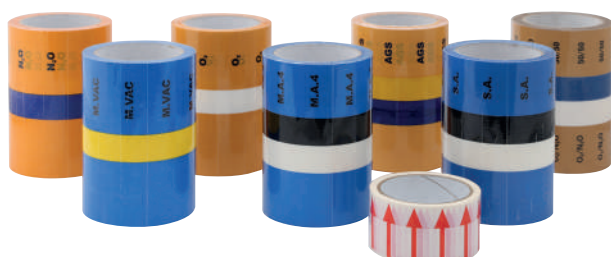
## Silver Solder Brazing Alloy, 5%, 10% or 40%

Conforms to EN 10444:CP 104

For flux free brazing of copper or high copper content alloys

Available in kg or sticks

## Medical Gas Pipeline Identification Tape

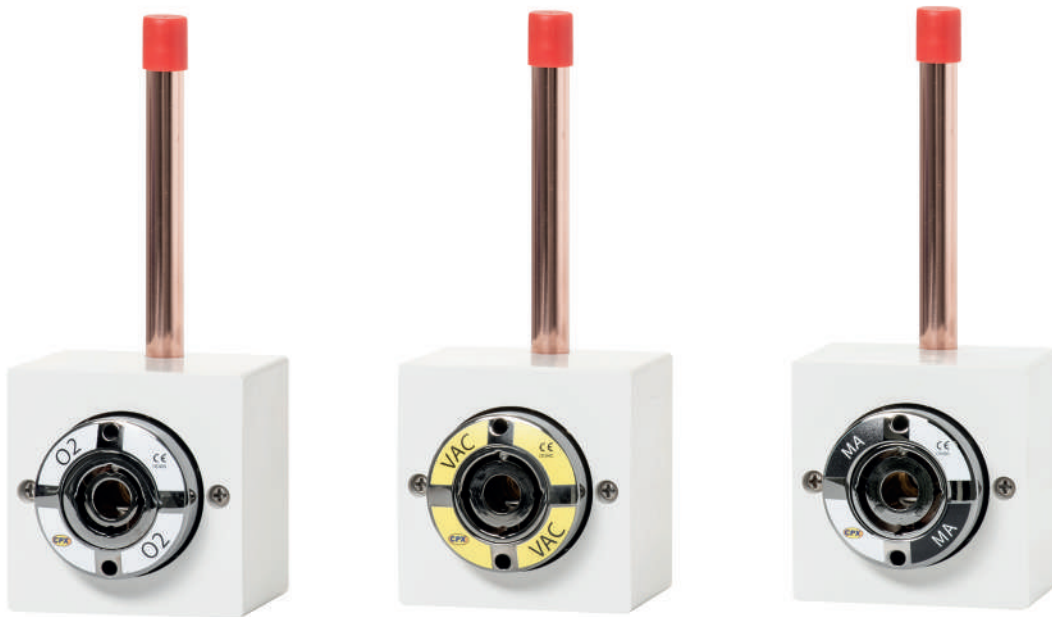


CPX Pipeline ID tape is suitable for identifying medical gas pipelines compliant to BS EN 7396, HTM 02-01 NHS Health Technical Memorandum, C11 and BS 1710

Colour banding should be applied near to valves, junctions, walls etc. A label every 3m should identify each gas and arrow tape showing the flow direction of gas.

# Medical Gas Outlet

## British Standard



The CPX Terminal Units are designed and manufactured in the UK under BS EN 13485 Medical Devices: Quality Management Systems. The units comprise of a first fix, second fix and a second fix valve assembly and connect medical appliances to the gas supply system.

The first fix comprises of a brass pipeline termination cylinder with a 12mm BS EN 13348 copper pipe for brazing to the fixed pipeline system, or with a NIST BS EN 18082 (non-interchangeable screw thread) connector for connection to a hose assembly. A mounting box suitable for both surface and flush installations is also provided.

### CPX British Standard and DIN Standard Gas Outlets utilise a common first fix assembly.

The CPX Terminal Unit is designed to enable gas probes to be connected and disconnected easily and with minimal effort and the same time as giving a strong, reliable and secure connection. They are available for oxygen, nitrous oxide,

50% oxygen/50% nitrous oxide mixture, medical air, surgical air, medical vacuum, carbon dioxide, nitrogen and AGSS.

The terminal units can be flexibly integrated into any type of installation including surface, flush, bedhead and pendant and are supplied with a **3 year warranty**. Test plugs are included with flush, surface, and bedhead types for first fix pressure testing on site.



New Generation Gas Outlet

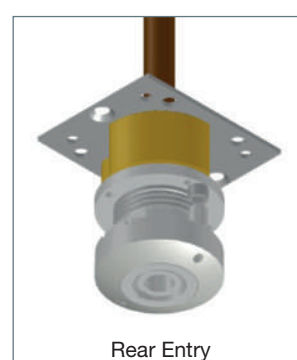
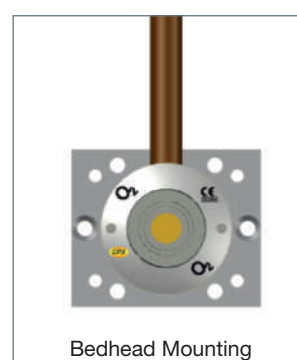
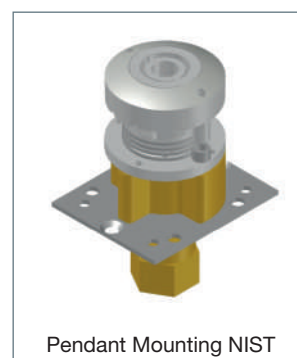
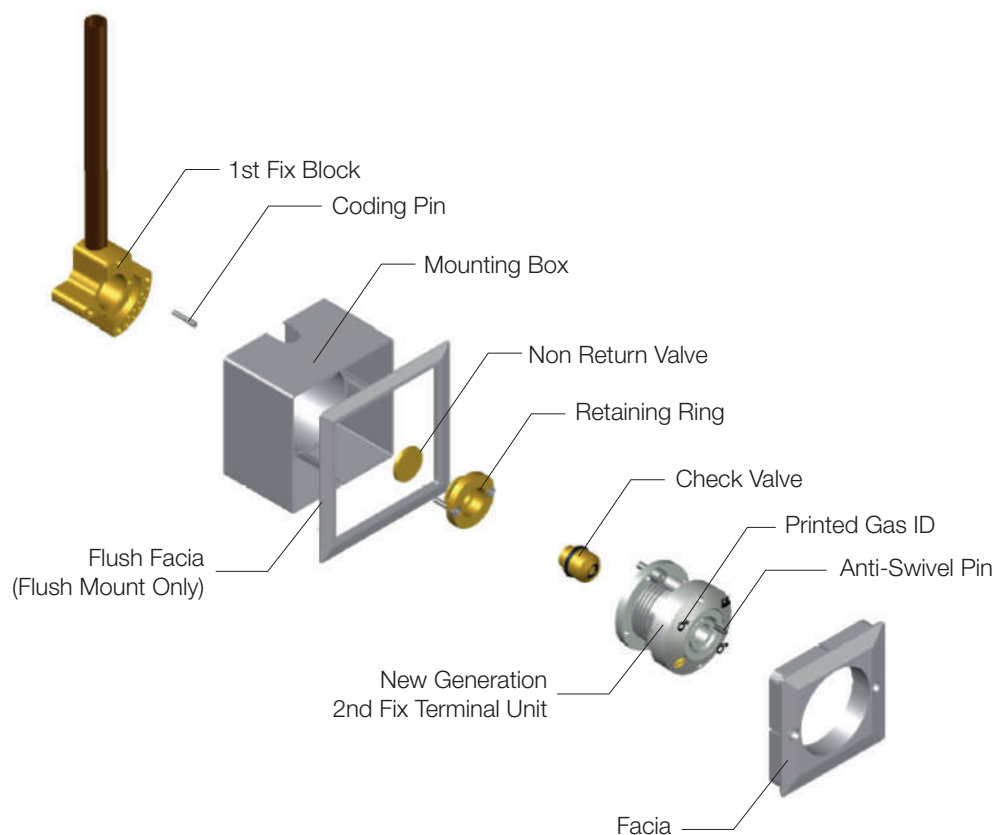
## Standards

Designed to meet the requirements of (but not exclusive to):

- HTM 02-01 Medical gas Pipeline Systems
- BS EN 7396-1 Pipelines for Compressed medical Gases and Vacuum
- BS EN 7396-2 Anaesthetic Gas Scavenging Disposal Systems
- BS EN 9170-1 Terminal Units for use with Compressed Medical Gases and Vacuum
- BS EN 9170-2 Terminal Units for Anaesthetic Gas Scavenging Systems
- C11 NHS Model Engineering Specification – Medical Gases
- BS EN 18082 Non-interchangeable Screw Threaded (NIST) Low-pressure Connectors for Medical Gases
- BS 5682 Specification for Probes Specification for Probes (quick connectors) for Medical Gases
- **Medical Device Directive 93/42/EEC (CE0086) Class IIb**
- DIN 13260-2 Part 2: Dimensions and allocation of Probes and Gas specific connection points for Terminal Units

# Medical Gas Outlet

Product Code	Medical Gas Outlet c/w Metal 2nd Fix - British Type
TUMF-NG	Flush Fitting - Box Included
TUMBH-NG	Bedhead Fitting - Plate Included
TUMNBE	Back Entry Nist (Pendant Type)
TUMNBE-45	Back Entry Nist (Pendant Type) Plate included - 45degree
TUMBE	Back Entry - 150mm Stub Pipe
<b>Example: TUMFO2-NG</b>	<b>Terminal Unit Flush Type - Oxygen - BS Type - Metal 2nd Fix</b>
Product Code	Medical Gas Outlet c/w ABS Fire Retardent 2nd Fix - British Type
TUWF*GAS*-NG	Flush Fitting - Box Included
TUWBH*GAS*-NG	Bedhead Fitting - Plate Included
TUWNBE	Back Entry Nist (Pendant Type)
TUWBELT	Back Entry Long Tail - Max 1 Metre Length
TUWBE	Back Entry Copper - 150mm Stub Pipe
<b>Example: TUWFO2-NG</b>	<b>Terminal Unit Flush Type - Oxygen - BS Type</b>



# Medical Gas Outlet

## DIN Standard



CPX DIN gas outlets are manufactured and designed in our UK factory, full metal construction, **Gas Indexing as EN 13260-2, EN 9170 and Medical Gas Pipelines EN 7396.**

CPX DIN Gas Outlets are available for wall mounting (Flush or Surface), bedhead trunking and pendant mounting. See below list of example product codes for Flush type.

Gas	Code
O <sub>2</sub>	TUFO2-DIN-NG
N <sub>2</sub> O	TUNFN2O-DIN-NG
O <sub>2</sub> /N <sub>2</sub> O	TUNFO2/N2O-DIN-NG
MA4	TUNFMA4-DIN-NG
SA7	TUFSA7-DIN-NG
VACUUM	TUFVAC-DIN-NG

### Features:

- Available for Oxygen, Nitrous Oxide, Medical Air, CO<sub>2</sub>, Motor Air and Vacuum (other gases available on request)
- Incorporating a 12mm copper stub pipe to EN 13348 to allow easy connection to the Medical Gas Pipeline system, other options include NIST or DISS type fittings for pendants or bed head units
- Probe insertion design **incorporates parking position** and full insert for 100% operation, each outlet is supplied with Flush/Surface Box or Bed Head Plate mounting options and include a 3-year warranty
- **CE marked CE0086 class 11b Medical Device**





# AVSU Module

The CPX HTM standard AVSU Module is used in conjunction with and by configuring Precision UK's Area Valve Service Units (AVSU) for one to six gases services, depending on the hospital area served.



Modular AVSU - Surface Mounting, Polymer Laminate

## Features:

- Modules are available in the following Flush or Surface fitting types
- HTM 02-01, BS EN 18082 and C11 fully compliant ensuring individual gas separation in case of emergency
- Designed to fit ceiling heights of 2.4mtr, 2.7mtr or 3mtr as standard, other lengths available
- Gas venting as per **BS EN 11197** to avoid inadvertent gas build up in cavity wall installation
- Upstream and Downstream NIST connectors with 100% serviceable non-return valves fitted on all gases
- Gas types available O<sub>2</sub>, N<sub>2</sub>O, O<sub>2</sub>/N<sub>2</sub>O, MA4, SA7, VAC, CO<sub>2</sub>, N<sub>2</sub>, Helium Mix, Lab Gas other variables available on request
- Factory tested and certified Pre-Piped EN 13348 Copper Tube to top ceiling level to aid in installation
- Cover types available- Epoxy coated steel or Polymer laminated anti-Microbial cover
- Extremely hard wearing impact proof Polymer Laminate material available in any **RAL colour** or Finish type enabling the Module to fit Hospital architectural design requirement
- Factory Fitted CPX Analogue or Digital Area Alarm (Also available to be manufactured as remote alarm set-up)
- On board pressure sensors shall be fitted local to each gas line behind locked door
- Integrated 12V Digital Alarm factory set for the Gas types and Pressure Settings
- Battery back up in case of power failure shall continue to operate for up to 24 hours
- Modbus ASCII outputs for digital connection to BMS to monitor Live Local pressures within Hospital. \* Connection to CPX
- **'Hospi-View'** Schematic BMS system
- Option Flow Measurement can be connected to each individual gas type to provide flow data 24 hours each day
- Delivered assembled to site for easy one man installation

Product Code	AVSU Type
AVSU*SIZE*-*GAS*	Single AVSU
AVSU-MOD-POLY-*QTY*A	AVSU Module (Semi Flush or Surface Type)
MOD-COMPACT-*QTY*-ALARM	Compact AVSU Module
Example: AVSU22-O2	22mm AVSU - Oxygen
Example: AVSU-MOD-POLY-3A	3 Gas AVSU Module (Semi Flush or Surface Type)
Example: MOD-COMPACT-3-ALARM	AVSU Module 3 Gas Compact c/w Digital Alarm



Available in any RAL colour

## Compact Multi Valve AVSU



### Features:

- **NFPA & EN ISO 7396-1 Fully Compliant**
- Emergency Access via simple push mechanism with no serviceable items required to reset, requiring appropriate lock key to reset
- Downstream NIST connector for all gas types including Vacuum
- Optional DISS or Gas Outlet can be fitted inside lockable box
- Pressure Gauge with easy to read dial gives user immediate information
- Integrated 12V Digital Alarm factory set for the Gas types and Pressure Settings
- Battery back up in case of power failure shall continue to operate for up to 24 hours
- Modbus ASCII outputs for digital connection to BMS to monitor Live Local pressures within Hospital. \* Connection to CPX 'Hospi-View' Schematic BMS system
- Option Flow Measurement can be connected to each individual gas type to provide flow data 24 hours each day
- **Flush or Surface Type fitting for 3, 4, 5 or 6 gas types available**

## Single AVSU

The Single Area Valve Service Units (AVSU's) are manufactured under BS EN 13485 Medical Devices: Quality Management Systems and Medical Device Directive 93/42/EEC (CE0086) Class IIb. They 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 HTM02-01, C11 and BS EN 18082 standards and are suitable for Oxygen, Nitrous Oxide, Oxy-Nitrous Oxide, MA4, MA7, CO2 and Vacuum (other gases on request).

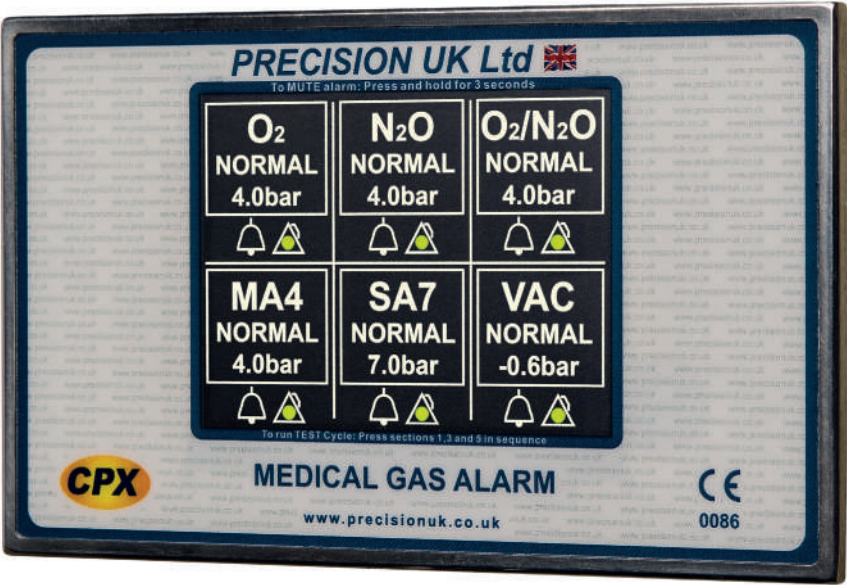


### Features:

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 with 20,000 lock combinations
- Gas Identification is located on the body of the AVSU behind the window and immovable
- A large viewing window to the door gives immediate indication of Gas Identification located on body of AVSU, valve position and flow direction
- In an emergency this can be gained by pulling the window thus allowing access to the valve. Anti-Tamper device can be fitted to the window and connected to our Digital Alarm and BMS to incorporate monitoring of all CPX AVSU's
- The valve type is a 90° shut off ball valve, which is operated via a red ergonomic handle, 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. Including 100% sealing serviceable non-return valves to allow the pipeline to be pressure tested and provide an easily accessible point for gas sampling
- Pressure sensors shall be fitted inside the box to enable local monitoring and servicing via Copper Sensing Pipe
- Side entry sizes available 22mm, 28mm, 35mm and 42mm (other entry versions available)

# Digital Area Alarm Unit



The CPX Digital Area Alarm is used to monitor pipeline pressure within a ward, theatre, private rooms etc. The pressure is monitored via a transducer in the pipeline downstream from the last AVSU, this pressure is monitored for both high and low pressure (low only for vacuum). A fault on the cabling between the pressure transducer and alarm panel would result in a system fault alarm and as a result the integrity of the CPX cabling is incomparable.

CPX Digital Area Alarm is available in two different and versatile installation models.

The alarm unit provides indication of 3 conditions of gas, normal, Low pressure and High pressure for up to 6 Gas services.

Each service has a green normal, red high pressure and red low pressure indication, vacuum service has a green normal and red low pressure indication and are programmed via an antimicrobial touchscreen display.

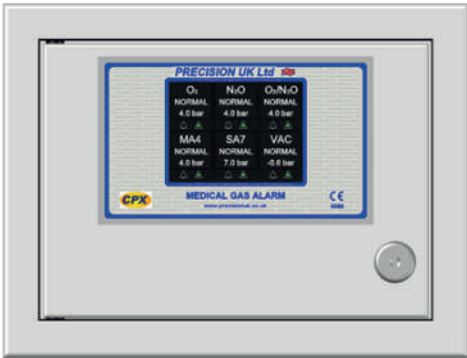
- **HTM 02-01 & SHTM02-01 fully compliant.**
- Ultra Low 12V Digital Touchscreen Alarm.
- **Anti-Microbial laminate label** that actively removes bacteria.
- User configurable 1 to 6 gas types.
- Dual circuit pre-loaded gas identification enabling compliance to HTM02-01 criteria.
- Battery back up in case of power failure shall continue to operate for up to 24 hours.
- **Modbus ASCII outputs for digital connection to BMS** to monitor Live Local pressures within Hospital for all gas types.
- Integration to **CPX 'Hospi-View' Schematic BMS system.**
- Lockable Enclosure.

## 2 Year Warranty:

No parts or labour charges for repairs to alarms which fail due to fault parts or manufacture. 10 year compatibility warranty: Install the CPX-DA with confidence that equipment will be available to modify or extend the system for at least 10 years

All Alarms are manufactured under our strict BS EN 13485 Medical Devices: Quality management Systems and CE 0086 classified as Class IIB Medical Device

Product Code	Model
CPX-DA-REM-FB	Digital Alarm - Remote Type
CPX-DA-FB	CPX Digital Alarm - Flush Box Type



Flush/Surface Mounting

# Medical Vacuum Plant - British Standard



Precision UK's CPX Vacuum Plant is manufactured under BS EN 13485 Medical Devices: Quality Management Systems. It provides a centralised source of vacuum, available in simplex to multi-pump configurations dependant on individual requirement, to include complete package plant or modular format.



## Specific Benefits Include

- Fully complies to HTM 02-01, HTM 2022, C11, BS EN 7396, **CE0086 Class IIb**
- **CE marked under Medical Device Directive 93/42/EEC**
- CPX® branded solid British design
- Control and highly visible indication panel
- All interconnecting pipework is included
- Outlet pipework for connecting to the pipeline
- Anti-vibration mounts on all pumps
- Isolator to each pump unit as standard
- Alarm and BMS outputs for remote status indication
- **Digital display touchscreen with user interface**
- All settings are factory set and verified with certificates of inspection
- Each plant has a full warranty of 12 months from its commission date
- Options – Touchscreen, BMS Modbus, Digital Outputs, **SMS Texting Alarms**, Service Reminders

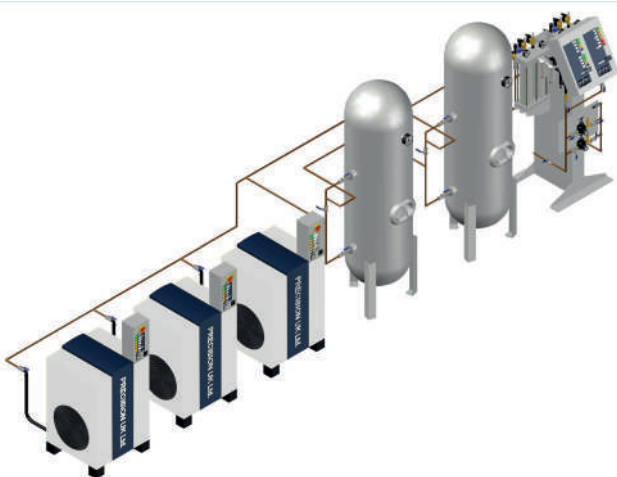


# Medical Air Plant - British Standard



Touchscreen Control Medical Air Dryer Unit

Precision UK's CPX Medical Air Plant is manufactured under BS EN 13485 Medical Devices: Quality Management Systems. It provides a centralised source of medical air, available in simplex to multi-pump configurations dependant on individual requirement.



Triplex Air Plant – HTM 02-01

## Specific Benefits Include

- Fully complies to HTM 02-01, HTM 2022, C11, BS EN 7396, **CE0086 Class IIb**
- **CE marked under Medical Device Directive 93/42/EEC**
- CPX® branded solid British design
- Control and highly visible indication panel
- All interconnecting pipework is included
- Outlet pipework for connecting to the pipeline
- Anti-vibration mounts on all compressors
- Isolator to each pump unit as standard
- Alarm and BMS outputs for remote status indication
- **Digital display touchscreen with user interface**
- 400Kpa, 700Kpa and 1000Kpa output versions available
- All settings are factory set and verified with certificates of inspection
- Each plant has a full warranty of 12 months from its commission date

# AGSS Plant - British Standard



Precision UK's CPX AGSS Plant is manufactured under BS EN 13485 Medical Devices: Quality Management Systems. It provides a centralised or dedicated source for the safe removal of exhaled anaesthetic gases from within the theatre, available in simplex and duplex pump configurations dependant on individual requirement.

## Designed to meet the requirements of

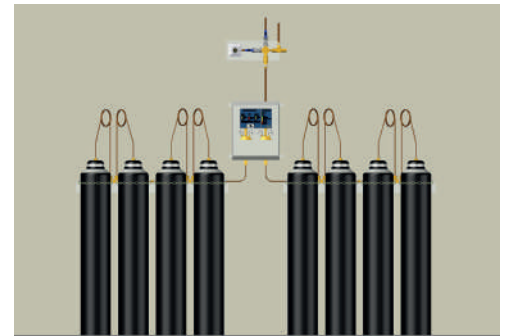
- HTM 02-01: Medical Gas Pipeline Systems
- C11 NHS: Model Engineering Specification – Medical Gases
- BS EN 6834: Specification for Active Anaesthetic Gas Scavenging Systems
- ISO 7396-2: Anaesthetic Gas Scavenging Disposal Systems

Product Code	Plant Size
AGSS-*S/D*-130	130 l/min
AGSS-*S/D*-520	520 l/min
AGSS-*S/D*-1050	1050 l/min
AGSS-*S/D*-1500	1500 l/min
AGSS-*S/D*-1820	1820 l/min
AGSS-*S/D*-2500	2500 l/min
AGSS-*S/D*-3770	3770 l/min
AGSS-S/D-REMOTE	AGSS Remote Switch
*S/D*	S = Simplex / D = Duplex
Example: AGSS-D-520	Duplex AGSS - 520l/min

## Specific Benefits Include

- CPX® branded solid British design
- Control and highly visible indication panel
- CE marked under Medical Device Directive 93/42/EEC with approval from British Standards Institute **CE0086** classified as **Class IIa Medical Device**
- All interconnecting pipework is included
- Copper stubbed outlet and inlet pipework for ease of connecting to MGPS
- Available in Single or 3 Phase
- Anti-vibration mounts on all pumps
- Isolator to each pump unit as standard
- **Alarm and BMS outputs for remote status indication**
- Pre-set vacuum relief valve and low pressure sensors
- **Low voltage (24V) remote switches**
- Visible condensate drain flask fitted to exhaust
- Easy to install 4 wire + earth remote switch wiring
- All settings are factory set and verified with certificates of inspection
- Each plant has a full warranty of 12 months from its commission date

# Medical Gas Manifolds - British Standard



Typical 2x4 Way Header and Control Panel

Touchscreen SHTM02-01 Compliant Automatic Manifold Control Panel

Precision UK's CPX Automatic Manifold Plant is manufactured under BS EN 13485 Medical Devices: Quality Management Systems.

It provides a centralised source of bottled gas. The unit is designed to provide a duty and standby gas supply at a constant pressure via two banks of bottled gas cylinders with status monitoring.

- A standard system would feature a central control panel with a header assembly.
- Digital display of bottle pressure for duty and standby banks.
- **Electronic control with alarm and BMS outputs for remote status indication.**
- The unit is designed for wall mounting as standard, however, options available include floor mounted assemblies and formats to suit customer requirements.
- Also available is a high flow capable of providing a distribution flow rate up to 2500l/min.
- **Options:**
  - Touchscreen
  - BMS Modbus Digital Outputs
  - SMS Texting Alarm
- **Configurations:**
  - Third Source
  - Back To Back
  - Double Stack Heading

## Designed to meet the requirements of:

- **HTM 02-01 and SHTM 02-01: Medical Gas Pipeline Systems**
- BS EN 7396: Pipeline Systems for Compressed Medical Gases and Vacuum
- C11 NHS: Model Engineering Specification – Medical Gases
- BS EN 10524-2 : Pressure Regulators
- BS EN 21969 High Pressure Flexible Connectors
- CE marked under Medical Device Directive 93/42/EEC with approval from British Standards Institute **CE0086** classified as **Class IIb Medical Device**

## Service and Maintenance

Throughout the UK and worldwide our approved team of service and maintenance engineers provide immediate technical support.

Automatic Gas Manifold:	
Product Code	Type
MANIFOLD-AUTO-GAS	500l/min
MANIFOLD-AUTO-GAS-1500	1500l/min
MANIFOLD-AUTO-GAS-2500	2500l/min
Manual Manifold:	
Product Code	Gas Type
MANIFOLD-MAN-GAS	500l/min
MANIFOLD-MAN-GAS-1500	1500l/min
MANIFOLD-MAN-GAS-2500	2500l/min
ESM - Emergency Standby Manifold HTM 2202	
Back Up 2 Way to Auto Manifold	
Product Code	Type
MANIFOLD-ESM-GAS	1 x 2
ERM - Emergency Reserve Manifold HTM 0201	
MANIFOLD-ERM-GAS	2 x 1

# VIE Control Panel



The **CPX VIE Control Panel** regulates the supply pressure of gaseous **OXYGEN** from a liquid oxygen tank and distributes the gas to the pipeline system. The panel comprises two or more pressure regulators, pressure relief valves, isolation valves, pressure gauges and pressure switches all mounted in an enclosure.

The Vacuum Insulated Evaporator (VIE) control panel is provided as a duplex system of controls (Duty/Standby) and is designed to accept a supply of gaseous oxygen from the liquid supply source and reduce the pressure to the pipeline distribution pressures. The secondary manifold should be piped into the system after the VIE control panel alleviating the necessity to provide a bespoke manifold system.

The CPX VIE control panel complies with the design requirements specified in **ISO 7396-1** and **HTM 02-01** be sized to provide the system design flow. The control panels are available in pipework sizes Ø15mm, Ø22mm, Ø28mm, Ø35mm and Ø42mm depending on the flow rate required others sizes are available.

**3rd Source Manifolds** are also available allowing for Regulation of Primary, Secondary and Third Source Oxygen supplies using LOX Tank and Cylinder Manifolds.

## Flow Rates

Nominal Diameter	Flow Rate (l/min)
15mm	1000
22mm	2000
28mm	3000
35mm	4000
42mm	8000

*The above flow rates are for a 400kPa system.*

## Features and Benefits

- Each regulator of the duplex system is provided with its own pressure relief valve to ensure safe venting of the gas in the event of overpressure of the supply.
- The safety valves are manufactured and tested in accordance to the regulations (DIN 3320.AD SHEET A2/A4)
- The medical lockable line valve comprises of a 2-piece full bore male threaded nickel plated brass ball valve c/w chrome plated brass ball, blow out proof stem, Viton® Stem O-ring, Teflon® ball seals, 2 x Locknuts with visual indicator for blanking facility and flat face copper stub pipe assemblies.
- The CPX VIE control panel monitors the LOX tank Fill Level, Inlet Pressure and Outlet pressure with high and low pressure switches.
- Digital display models are available which will display the Inlet pressure, the pipeline pressure and the contents of the Vacuum Insulated Tank.

## Quality

CPX VIE Control Panels 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 VIE Control Panels are CE marked as a Class IIa Medical Device 93/42/EEC with notified body British Standards Institute and stamped CE 0086.

## Product Cleanliness

The CPX VIE Control Panel is cleaned and degreased for oxygen service and free from all particulate matter and toxic residues in accordance with BS EN 15001 and has a maximum hydrocarbon contamination level of 550mg/m².



# Liquid Oxygen Tanks and Generators

## Liquid Oxygen Tanks



Precision UK's Cryogenic Bulk Tanks can be used for a variety of applications and are part of the high performance CPX LOX range.

LOX Tanks are stationary, vacuum-insulated pressure vessels for storage of cryogenic liquefied gases. Low evaporation rate, ergonomic layout of instruments and controls for ease of use, carefully selected components and outstanding build quality ensure a high degree of reliability and economy in everyday use and guarantee the longevity of the vessel.

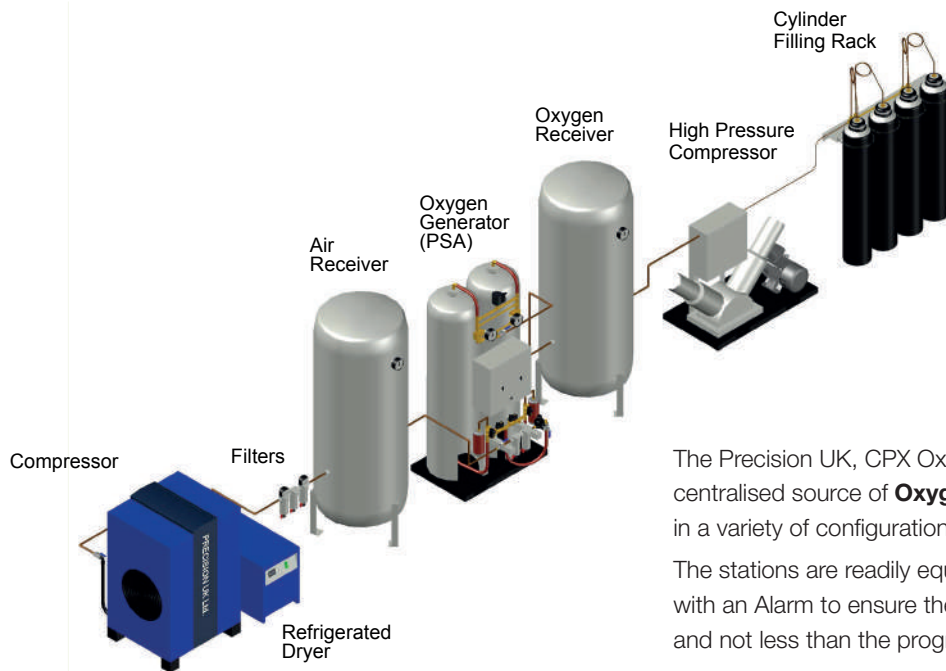
Vessels are available in vertical or horizontal configurations, sized from **2,200** to **200,000** litres, and are manufactured and tested according to the European Pressure Equipment Directive 97/23 CE (PED) or to the regulations of other countries.

**VIE Control Panels available 500l/min-6000l/min.**

(Please contact sales office for further details.)

Our vessels have been in use world-wide for decades. High quality is ensured by measures, including a quality management system complying to ISO 9001.

## Generators



The Precision UK, CPX Oxygen Generating Plant provides a centralised source of **Oxygen up to 95% +/- 3%** purity available in a variety of configurations.

The stations are readily equipped with O<sub>2</sub> analysers, complete with an Alarm to ensure the produced purity of the O<sub>2</sub> is controlled and not less than the programmed parameter.

Digital Touchscreen controls with factory preset configuration shall incorporate; Pictorial easy to read images, O<sub>2</sub> concentration %, Receiver pressure, Oxygen Capacity, Operating Instructions and Manual. \*Bespoke design service available.

Oxygen Generators are available in customer specific requirements. **Our standard ranges are 100l/min – 2000l/min.**

Manufactured in our UK factory, fully tested and ready to install our generator is CE marked and is in standards compliance with ISO 10083 and conforms to HTM and EN Standards.

# Medical Pendants - Multi-movement



Precision UK supplies a comprehensive range of high quality ceiling suspension systems which have been developed under the following criteria:

- Increased Safety
- Increased Hygiene and Sterility
- Ease of use

The many advantages in the field of safety and hygiene are;

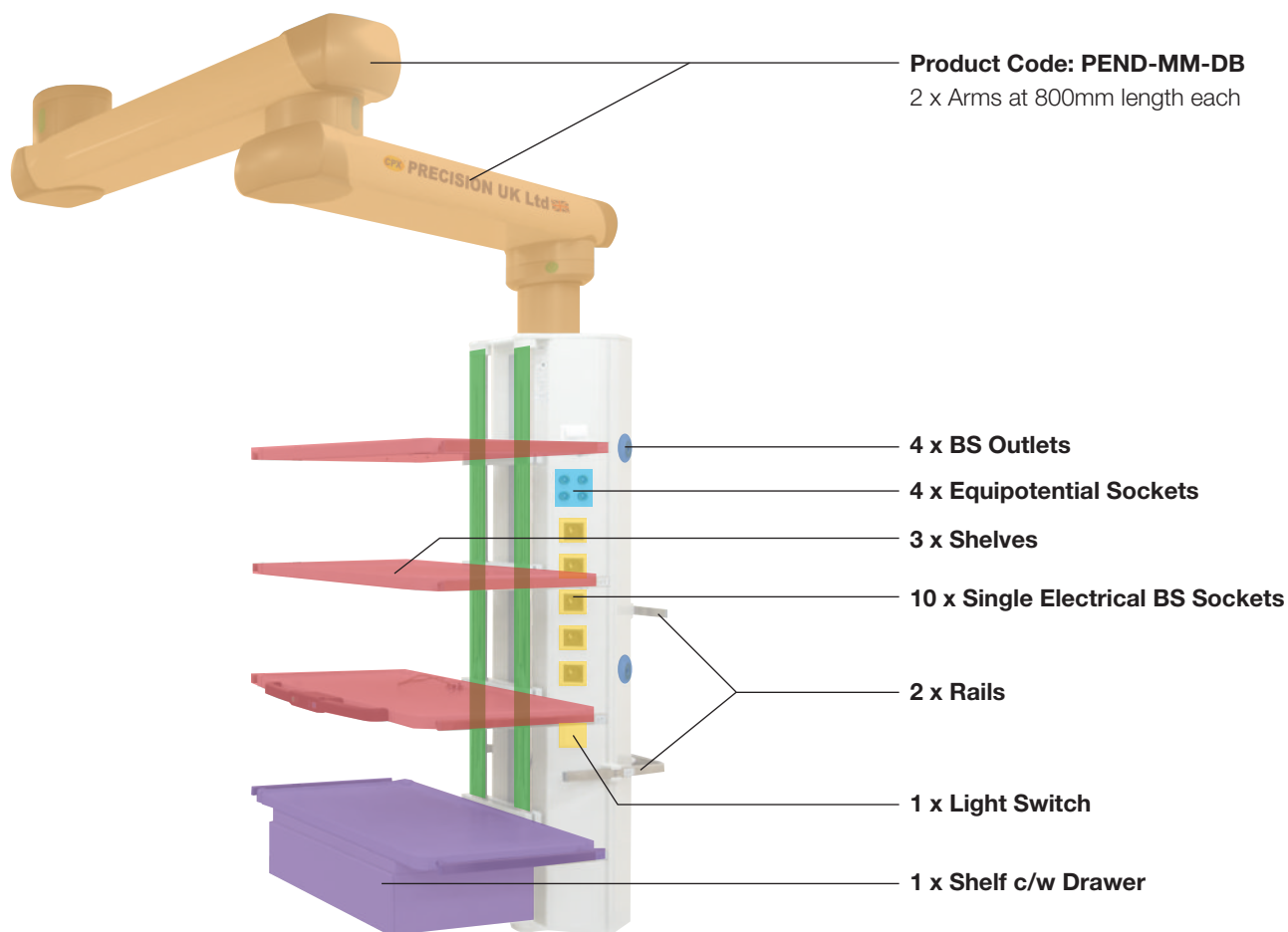
- No more trailing leads or hoses to restrict movement within the department, all equipment is attached via short connecting hoses or cables to integral hook up points.
- Fully encapsulated system, incorporating modular service boxes, to ensure maintenance and general use is unproblematic.
- Single or two piece ondal arm assemblies, motorised or static, equipment can now be located at point of use with simplicity.
- Fully equipped as desired, with high and low voltage supplies, medical gas outlet points, communication points, miscellaneous.
- Factory tested supplied to customer in modular format  
**certified and compliant CE 0086 Medical Device Class IIb**

The Precision UK Pendant is a modular unit, which can be supplied with or without height adjustment. The pendant consists of a ceiling mount, upon which a wide selection of arms can be mounted.

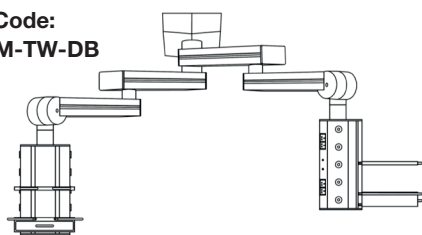
## Designed to meet the requirements of:

The UK DHSS Health Technical memorandum No. 02-01. The standard medical gas terminals installed in the pendant conform to HTM No. 02-01 and to EN ISO 9170-1. The pendant can be constructed to other standards, and other makes of terminal can be fitted.

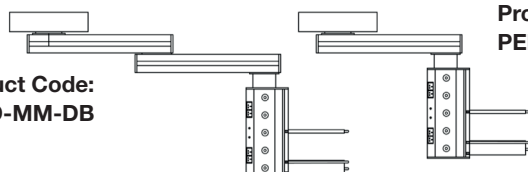
## Example accessory order list



**Product Code:**  
**PEND-MM-TW-DB**

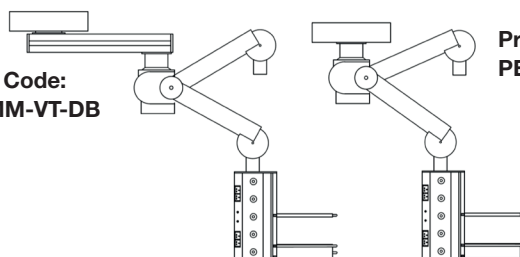


**Product Code:**  
**PEND-MM-DB**



**Product Code:**  
**PEND-MM-SG**

**Product Code:**  
**PEND-MM-VT-DB**



**Product Code:**  
**PEND-MM-VT-SG**

# Medical Pendants - Rigid and Retractable



Rigid and Retractable Pendants are manufactured under BS EN 13485 Medical Devices: Quality Management Systems. They are intended to distribute medical gases, AGSS and electrical services to the operating table/anaesthetic machine, whilst leaving the surrounding area free from trailing hoses and cables.

Rigid Pendants are ceiling mounted fixed columns complete with first fix plate and ceiling shroud, with an epoxy powder coated finish.

Retractable Pendants are ceiling mounted, height adjustable columns complete with first fix plate and ceiling shroud, with an epoxy powder coated finish. The height to the underside of the pendant can be adjusted throughout a 300mm pre-determined range.

A maximum of 9 medical gas and AGSS terminal units, complete with hose assemblies, can be accommodated within each pendant.

Each pendant can accommodate a maximum of 8 electrical sockets. Other specialist outlets such as data sockets, equipotential sockets, etc. can be incorporated into the pendant as required.

## Designed to meet the requirements of:

- HTM 02-01: Health Technical Memorandum Medical Gas Pipeline Systems
- BS EN 7396: Medical Gas Pipelines for Compressed Medical Gases and Vacuum
- BS EN ISO 11197: Medical Supply Units
- BS EN 18082: Non-interchangeable Screw Threaded (NIST) Low-pressure Connectors for Medical Gases
- BS EN 9170: Terminal Units for use with Compressed Medical Gases and Vacuum
- **Medical Device Directive 93/42/EEC (CE0086)**  
**Medical Device Class IIb**

Product Code	Pendant Type
PEND-RG-*QTY*	Rigid Pendant
PEND-RT-*QTY*	Retractable Pendant



# BHU Bed Head Unit



Horizontal Bed Head Unit

All Precision UK's CPX Bed Head Units are manufactured under BS EN 13485 Medical Devices: Quality Management Systems. They are designed and built with a view to provide smooth lines, a stylish finish and pleasing aesthetics in order to blend into the room décor. The unit is in accordance with the British Department of Health Memorandum No 2015 (HTM 08-03).

Built from individually heat treated extruded aluminium sections, the unit provides separate compartments for medical gases and electrical services. Furthermore, the gas compartment is ventilated to prevent a buildup of gas inside the unit.

There are separate panels for low voltage (LV) and protective extra-low voltage (PELV) services. This allows access to the PELV section for servicing without having to isolate the LV circuits.

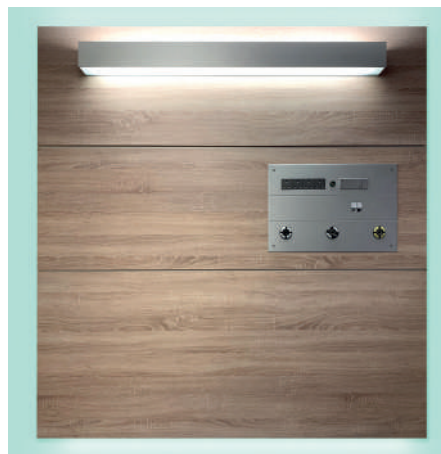
Medical gas outlets are located in an individual compartment which both this and the cover are completely insulated from electrical elements. Any number of medical gas outlets can be accommodated depending on the length of the unit.

A provision for nurse call can be included, reading and room lights are also available to be pre-installed in the unit.

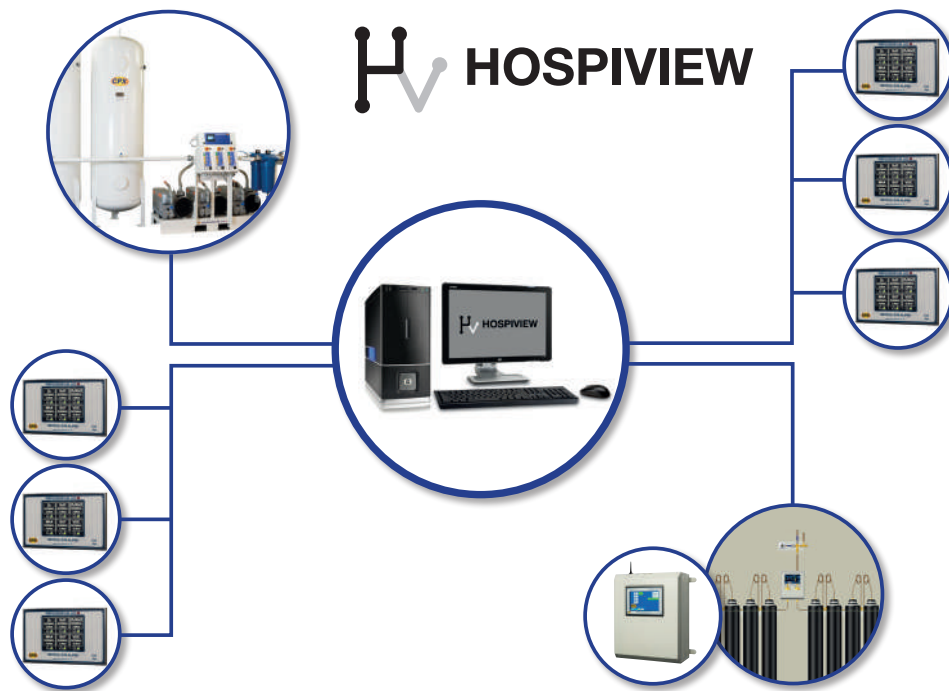
Any number of electrical sockets can be accommodated depending upon the length of the unit. A complete choice of British/American/Euro US/German Schuko sockets are available.

## Specific Benefits Include:

- Colour coded to customer requirements
- Extruded aluminium sections
- Separation of services as per **BS EN 11197**
- Integral up lighting and medical rails
- The main unit is normally supplied in white colour (RAL 9010)
- BS EN 9170 CPX Precision medical gas outlets as standard others available at request
- Supplied pre-piped, pre-wired, fully tested and certified
- **Medical Device Directive 93/42/EEC (CE0086)**



Head Wall Unit



Hospiview offers the ultimate in web-based remote monitoring for all CPX alarm systems. All CPX systems are automatically monitored and alarms can be sent directly to critical alarm service contractors, either through our Hospiview web interface or through existing BMS infrastructure. This allows facilities managers to respond faster, reducing patient risk and saving clinical staff time. Alerts can be customised and directed to different personnel, via SMS, email, telephone or web notifications.

## Features

- Web based remote monitoring
- Automated alarm notification
- Fully customisable and extendable
- Live information 24/7
- Up to 256 different monitoring points
- Seamless integration with all CPX monitoring hardware on Plant, Manifolds and Alarms
- Continuous reading & recording of all process and fault messages
- All data recorded and stored for up to 7 years
- Direct link to critical alarm service contractor
- SMS, email or Telephone notification
- Cascading notification protocol

## Remote systems monitoring

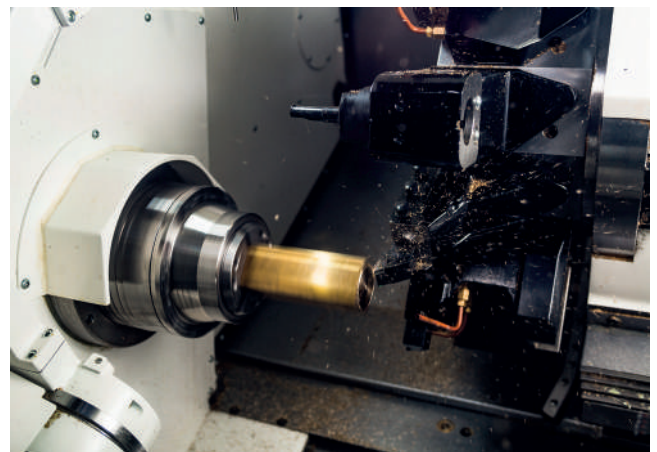
Hospiview can monitor and report on the following functions:

- Pump hours run
- Pump no. on duty
- Pump oil level
- Pump service date
- Gas flow rate
- Receiver pressure
- Power Amps in use
- Outlet pressure to pipeline
- Dryer in use
- Dew point measurement
- Filter service date
- Bacterial filter condition
- Cylinder pressure
- Duty bank pressure
- Standby bank pressure
- LOX tank liquid level
- Local alarm pressure data



Precision UK have recently completed a major investment in their latest state-of-the-art CNC milling facility. This new technology allows the quick and efficient production of complex brass components to exacting tolerances, whether in the design & development of new products or the manufacture of components for existing products. This fast and flexible manufacturing approach brings increased control over quality, reduce wastage and ultimately reduces the cost of products to the customer.

This new facility keeps Precision UK at the forefront of technology and ensures our position as the UK's leading manufacturer of medical gas pipeline products. This is the first of a number of planned major investments that will see a revolution in manufacturing processes.





As the only genuine British Company accredited to ISO 9001, ISO 13485 and 93/42/EEC Medical Device Directive, Precision UK Ltd also take pride in supplying complete Medical Gas Pipeline Systems with CE Certified products and Kite marked Copper Tube.

Operating on a Quality Management System which complies with the requirements of ISO 9001 and ISO 13485 has allowed us to design, assemble, test and supply all of our products whilst maintaining unparalleled practice and customer service, assisting us in attaining a primary role in shaping and developing the Medical Gas Pipeline Systems Industry.

The growing number of certificates accredited to all aspects of our work proves that we are committed to unmatched standards and continual improvements within our products. Our practices are consistently and frequently evaluated to ensure in terms of quality, safety and performance, we are providing our best each and every time, without fail.

All of our products are manufactured in the UK and are compliant with a number of widely recognised and esteemed standards, confirmation can be provided with certification stamped by ourselves or the chamber of commerce.





Precision UK are specialists in Medical Gas Pipeline Systems compliant to HTM 2022, HTM 02-01 and EN 7396 standards. We offer the complete design service of initial concept to delivery, from ward upgrades to complete design and build projects worldwide.

Our experienced management team and highly trained workforce ensure complete compliance to the latest health & safety and quality standards, MGPS are an integral part of all hospitals and our dedicated approach to achieving the highest quality product at the most economical value is in the forefront of our approach. Commissioning of each installation and offering on going advice of the project is also available from our team.

# Where to Find Us



We participate in major exhibitions worldwide:

See our website for details

## Contact Details:

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United Kingdom

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**Email:** [info@precisionuk.co.uk](mailto:info@precisionuk.co.uk)

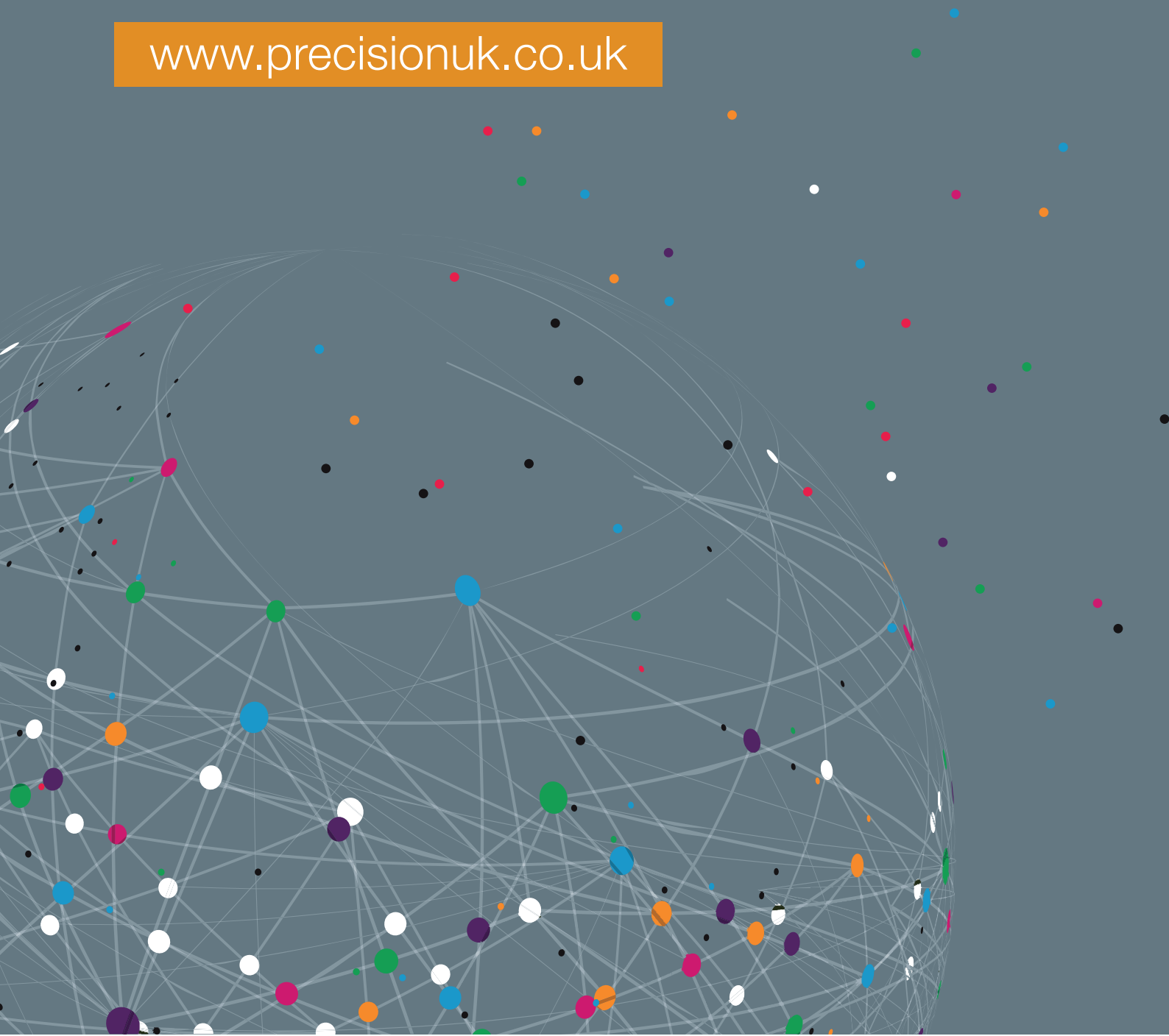
## Company Details:

**VAT No:** 850 070067

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Global Reach Local Support

[www.precisionuk.co.uk](http://www.precisionuk.co.uk)



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