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CABLEFLOW RO - RoH & RoV *renal services bedhead trunking systems*



CABL  FLOW™
H E A L T H C A R E





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Innovation is at the heart of an evolutionary healthcare infrastructure. Challenging boundaries whilst being respectful of clinical skills are two valued philosophies which ensure knowledge led developments in bedroom architecture.

At **CABLEFLOW** we recognise the need to be different, to ensure product development offers practical and sustainable progression whilst always ensuring full compliance with Patient Safety Standards and improving the clinical environment for clinicians and patients alike.

We are proud of our British healthcare heritage which offers universal application around the world. Having been conferred both a prestigious **Queens Award for Enterprise: Innovation** and a **Kings Award for Enterprise: Innovation** users of our products and systems take confidence in this unique recognition of Cableflow as a market leader.

Recognised as Britain's foremost medical supply unit manufacturer our range of products whether standard or bespoke offer solutions to satisfy many in-patient design concepts across all clinical environments whether primary or tertiary care areas, and every speciality in-between.

In 2005 our **integra** product became the first and only linear bedhead trunking system to achieve Royal recognition with a **Queens Award for Enterprise: Innovation** from Her Majesty Queen Elizabeth II. This achievement was further endorsed in 2023 with a **Kings Award for Enterprise: Innovation** for our (POAG) equipotential earth bonding socket.

Improving the clinical architecture, patient and clinician experience whilst ensuring flexibility and adaptation in later use are hallmarks of our innovative bedhead solutions. Whether in an acute hospital setting or more domestic environments such as Hospice's and the like our systems can be tailored to your requirements.



SYSTEM OVERVIEW

The **CABLEFLOW RO** (*Renal Osmosis*) range has been developed specifically for dialysis station locations in healthcare environments where the safe and reliable provision of purified water systems is essential to dialysis care. These systems are broadly recognised as the leading style of containment systems available to the UK market, designed to meet the intent of UK Health Building Note (HBN) 53:2004.

RO is available in two distinct formats, either vertical (**ROV**) or as a horizontal (**ROH**), single or multi-bed/chair format.

The **CABLEFLOW RO** range offers a composite solution to bedhead services provision in all types of Dialysis areas where both the clinical efficiency of the environment and it's aesthetics are important to users and patients alike. Our products have evolved through ongoing dialogue with RO water system providers, users and specifiers alike.

Each configuration of containment product has been specifically developed to house RO system pipework and waste disposal, with single or multi-station capabilities. Designed to suit the specific custom application from a core product range, we manufacture to an uncompromising standard catering for the individual needs of dialysis positions in every type of healthcare environment. All of our systems are CE marked accordingly.

DESIGN

Standards compliance is at the forefront of our product design and dictates that all cabled services are kept separate from medical gases in accordance with the latest UK and international standards. The entire **CABLEFLOW** range of medical trunking provides this solution in a neat, compact, versatile and cost-effective manner.

Purified water is an important factor in the process of haemodialysis and the provision of a safe and reliable patient treatment and ensuring that provision arrives safely and efficiently at the workstation is critical to the overall service provision. Whether from a localised renal water treatment plant or purified water system, the **CABLEFLOW RO** containment systems have been designed to accommodate all situations from single user stations to multi-chair/bed rooms.

Whether the environment is specific for Haemodialysis, Peritoneal Dialysis or Hemofiltration each of our RO products can be built to accommodate each aspect or, as is often the case, a multi-purpose installation providing total flexibility.

CABLEFLOW RO adds to the versatility of our product group by ensuring that RO pipework and associated media panels are contained in aesthetically pleasing yet fully compliant enclosures, all manufactured and tested off-site for ease of on-site installation.

Flush fitting lids offer a clean appearance to the trunking fascia, enhanced by a screw free approach to all external surfaces to meet HTM 08-03. Carefully manufactured lid sections butt tightly to each other to give a clean line appearance, without the need for unsightly joint cover strip, offering an IP rating of at least IP2X or IPXXB.

A clean appearance of the fascia ensures that staff can quickly identify the service required, resulting in efficient patient care.

SPECIFYING PEACE OF MIND

Specifying a **CABLEFLOW** medical trunking system throughout your hospital will provide an easy to use and aesthetically pleasing solution while maintaining a uniform look across all departments.

As an Award winning manufacturer, innovation is at the core of our philosophy and product solutions, based upon a proven track record over 25+ years in the UK healthcare industry.



VERTICAL ROV

Not every location suits a linear system and some architectural requirements will dictate the need for a vertical solution, such as older style Nightingale wards or where re-configuring an existing area to become a dialysis suite.

ROV caters for single dialysis station locations and accommodates all other patient care services as previously noted in a single enclosure. These services are neatly and effectively located within a stylish yet functional vertical trunking assembly which can be powder coated to the specifiers choice.

However, if it's only the media panel that's required then this too is conveniently located in the lower section of the product.

SERVICES OUTLETS

Accessories are mounted directly onto trunking lids to allow simple maintenance. By utilising standard BS 4662 knockout boxes on all of our horizontal trunking we ensure a degree of flexibility and if necessary, adaptability on site.

Nurse call back box assemblies are similar in construction but allow for the location and mounting of the nurse call system circuit boards and associated components. These have been developed in conjunction with the various nurse call manufacturers to ensure simplicity, uniformity and compatibility.



MAINS POWER

Electrical socket outlets from the UK, continental Europe, the US and other geographical regions can be accommodated, including switched or unswitched versions for standard, non-standard or Medical IT supplied circuits. Where called for these can be colour co-ordinated subject to the respective manufacturer's product range.

POTENTIAL EQUALISATION

The **CABLEFLOW POAG-PES** potential equalisation socket (equipotential earth bonding) is installed on all bedheads to meet the requirement of BS 7671 Section 710 and in an appropriate number.

NURSE CALL SYSTEMS

Each hospital will vary in its individual requirement from the next, none more so than the nurse call system.

CABLEFLOW RO has been designed specifically to accommodate all commercially available nurse call systems including the latest wireless products. As an independent trunking manufacturer with no allegiance to any specific nurse call supplier, we leave the choice of nurse call manufacturer up to you, the user and specifier, and we simply co-ordinate it for you.

Often when a client states a particular preference for a bedhead services manufacturer, this invariably refers to the nurse call system to ensure compatibility with existing arrangements.



Our bedhead containment systems are universally used with all major nurse call systems and do not affect the choice of nurse call equipment which can still remain as the hospital norm.







MEDICAL GAS TERMINAL OUTLETS

As with other patient care services provision, **CABLEFLOW RO** is able to accommodate any type of medical gas terminal outlets, each hospital or installer having a preference for a particular type. Terminal outlets are located to allow vertical and horizontal adjustment for precise alignment within the system.

Medical gas pipelines are fully segregated from cabled services, accessible by their own lid section meaning terminal outlets can be positioned almost anywhere in the module and the pipeline maintained in total safety.

The number of gas specific outlets which can be fitted varies depending on the exact product configuration selected and we can accommodate any variation of outlets as defined in HTM 02-01. Dual supply gas circuits can easily be accommodated in our larger profiles.

DATA, PATIENT MONITORING & TV SERVICES

TV, data, fibre optic and voice services are easily accommodated within the **RO** system. Proprietary supplied outlets are surface mounted or flush fitting for a co-ordinated appearance.

CONCEALED LID FIXINGS

In keeping with the screw free fascia, **CABLEFLOW RO** uses a bespoke lid retention slug that neatly slides into a channel created by the base-lid assembly preventing it from being opened inadvertently.

A specific lid removal tool accesses the channel and allows the lateral movement of the slug, thus ensuring that no damage is caused to the powder coated finish. The transparent slug has no visual impact on the appearance of the trunking, contributing towards the superb aesthetics of all **CABLEFLOW** medical trunking systems .

MULTIPLE COMPARTMENTS

Each system can be subdivided into at least four compartments for varying services such as SELV, ELV, PELV Mains and an additional gas services chamber in accordance with the latest ISO standard. A separate and self-contained section for RO system pipelines, drainage and dialysate are provided which also houses the RO Media panel.

All commercially available healthcare luminaires can be attached to the trunking lid facias using bespoke brackets and power supply fuse assemblies.

Where a complete ward lighting solution is required, our fully integrated **MEDISYS integra™** product can offer all of the benefits of **CABLEFLOW RO** plus integrated up and down lighting, providing ward illumination and reading/observation lighting in accordance with CIBSE (SLL) LG02:2019 (see separate product data sheet).

VERTICAL RISERS

We recognise the need to keep the visual effect of the trunking to a minimum and adopt a slim trunking section to tee into the horizontal bedhead module for the supply of all services. This of course is applicable only to the **ROH** horizontal system.

With an overall size of 180 x 45mm which can be doubled up if a larger volume of services need to be accommodated this riser is a tidy solution for a vertical interface with high level ceiling containment.



LEGENDS AND LABELLING

The specific nature of individual accessory lids in hospital applications, requires that legends and usage instructions are clearly evident to the user. We adopt a policy of indelibly marking all text and legends on our systems thus ensuring a greater life expectancy for the component and making it easy for the user to identify the relevant service.

END CAPS & CORNERS

All of our trunking configurations have purpose made end caps. These are manufactured from steel in most cases and powder coated to complement the remainder of the system whilst ensuring that the overall aesthetics of the product are maintained.

None of the **CABLEFLOW RO** systems are available with corners. This is a design concept we thought about from the outset and reviewed based upon how dialysis areas are serviced efficiently. Where at all possible, to avoid 'dead-legs' and potential blockages in pipework corners, should be eliminated at the design stage. Interfaces with adjacent walls can be easily dealt with via builder's work constructions.

ADJUSTABLE ARM LIGHTING

CABLEFLOW RO has been designed to provide bedhead reading/observation or examination lighting via one or more 'adjustable arm' type lamps, attached to the front of the trunking by a bespoke bed light bracket. We can supply these lamps from a variety of manufacturers or alternatively they can easily be site-fitted by the installing contractor.

EMC CERTIFICATION AND COMPLIANCE

Protecting electronic components in the patent environment from Electro-Magnetic Interference (EMI) and Radio Frequency Interference (RFI) is of paramount importance. **CABLEFLOW RO** has been designed specifically to ensure that each chamber, and in turn each individual compartment, controls both the emission and reception of any such Interference.

By specifying **CABLEFLOW RO** you can be satisfied that the EMC elements of BS EN ISO 11197:2019 have been complied with. All of our system solutions have been independently tested by BSI with all of the commercially available nurse call system in operation.





MEDIA PANEL, RO SUPPLY & WASTE

Each system within the **CABLEFLOW RO** range has been developed to accept various types and styles of Media Panels from the leading RO water system providers.

Each Media panel location also benefits from an access cover to ensure full accessibility for “full bore” maintenance and pipeline monitoring even when the dialysis station is in use. By ensuring uninterrupted fluid flow during maintenance allows cursory and routine maintenance checks on hoses, pipelines and waste outlets to be performed during dialysis.

The design of the waste outlet drain ensures that any overflow of toxic waste ‘by-product’ as a consequence of undetected blockages is directed out of the enclosure via the media panel air gap as opposed to allowing waste residue to form inside the media panel enclosure.

Invariably, pipelines will be installed on site by the RO water system installer in cross-linked polyethylene (CleanPEX) or Stainless Steel. Rear internal support straps ensure these and waste pipeline are managed effectively.





OFF SITE PRE-FABRICATION

While **CABLEFLOW RO** can be supplied in kit form for site assembly, the efficiencies of factory assembled pre-wired, pre-piped modules, with all outlets pre-configured, aids the simplicity of the product.

Prefabricated modules can be fitted as a second or third fix item and later in the conventional construction programme.

Adopting off-site manufacturing principles enables the **RO-H** or **RO-V** to be simply and quickly installed. This encapsulates all PEX or stainless steel RO pipework having previously been positioned internally by us under co-ordination with the RO system specialist during that off-site process.

The pre-fabrication of the internal PEX pipework ensures that the simple yet quick connection to the site-wide pipeline and waste infrastructure aids installation speed.

INSTALLATION

The system does not use proprietary first fix mounting plates and therefore can be installed by any competent tradesman. However, we have recognised the desire of some clients to procure a total supply and installation package from a specialist manufacturer and our experienced Contracts Department specialises in the installation of our trunking systems,.

INSTALLATION

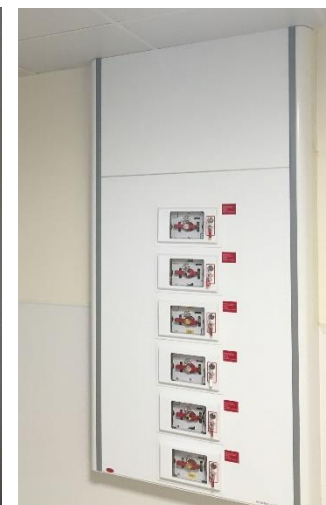
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All Cableflow installation technicians are trained to the highest standards, and equipped with the most up to date machinery to achieve the best possible result when our products and their skills are combined.

Further information about this service can be obtained by contacting our Sales Team who will be pleased to provide you with a costing on your specific application. .

Document Reference	Document Description	Document Reference	Document Description
BS 476-10: 2009	Fire tests on building materials and structures. Guide to the principles, selection, role and application of fire testing and their outputs	BS EN ISO 9170-2:2008	Terminal units for medical gas pipeline systems. Terminal units for anaesthetic gas scavenging systems
BS 1363-1:2016 + A1:2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for rewireable and non-rewireable 13 A fused plugs	BS EN ISO 7599:2010	Anodizing of aluminium and its alloys. General specifications for anodic oxidation coatings on aluminium
BS 1363-2:2016 + A1: 2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A switched and unswitched socket-outlets	BS EN ISO 11197:2019	Medical supply units
BS 1363-4:2016 + A1 2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A fused connection units switched and unswitched	ISO 19054:2006 + A1:2016	Rail Systems for supporting medical equipment
BS 5266-1:2011	Emergency lighting. Code of practice for the emergency escape lighting of premises	HBN 00-03	Designing generic clinical and clinical support spaces
BS 5733:2010+A1:2014	General requirements for electrical accessories. Specification	HBN 00-04	Circulation and communication Spaces
BS 6701: 2016	Telecommunications equipment and telecommunications cabling. Specification for installation, operation and maintenance	HBN 00-09	Infection control in the built environment
BS 6972: 1988	Specification for general requirements for luminaire supporting couplers for domestic, light industrial and commercial use	HBN 04-01	Adult in-patient facilities: planning and design
BS 7671:2018 + A2 2022	Requirements for Electrical Installations 18th Edition IET Wiring Regulations (incorporating Section 710 (Special Locations Medical Locations)	HBN 04-02	Critical care units
BS 8300-1:2018	Design of buildings and their approaches to meet the needs of disabled people. Code of practice	HBN 4, Supplement 1	Isolation facilities for infectious patients in acute settings
BS EN 12206-1:2021	Paints and varnishes. Coating of aluminium and aluminium alloys for architectural purposes. Coatings prepared from coating powder	HBN 6	Facilities for Diagnostic imaging and interventional radiology:
BS EN 12464-1: 2021	Light and lighting. Lighting of work places. Indoor work places	HBN 07-01	Satellite Dialysis Unit
BS EN 13032-2: 2017	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. Presentation of data for indoor and outdoor work places	HBN 07-02	Main Renal Unit
BS EN 50083-2:2012	Cable networks for television signals, sound signals and interactive services. Electromagnetic compatibility for equipment	HBN 09-02	Maternity Care Facilities
BS EN 50085-1:2005+A1:2013	Cable trunking systems and cable ducting systems for electrical installations. General requirements	HBN 09-03	Neonatal Units
BS EN 50085-2-1:2006	Cable trunking systems and cable ducting systems for electrical installations. Cable trunking systems and cable ducting systems intended for mounting on walls and ceilings	HBN 57: 2003	Facilities for critical care
BS EN 60439-5: 2006	Low-voltage switchgear and control gear assemblies. Particular requirements for assemblies for power distribution in public networks	HTM 00	Building Engineering in the Health Sector
BS EN 60529:1992+A2:2013	Degrees of protection provided by enclosures (IP code)	HTM 02-01	Medical gas pipeline systems
BS EN 60598-1:2021	Luminaires. General requirements and tests	HTM 06-01	Electrical services: supply and distribution
BS EN 60598-2-22:2014 +A1: 2020	Luminaires. Particular requirements. Luminaires for emergency lighting	HTM 06-02	Electrical safety guidance for low voltage systems
BS EN 60601-1-6:2010+A1:2013 +A2:2020	Medical electrical equipment. General requirements for basic safety and essential performance. Collateral standard. Usability	HTM 08-03	Management of bedhead services in the health sector
BS EN 60601-1-2: 2015 + A1:2021	Medical electrical equipment. General requirements for basic safety and essential performance. Collateral standard. Electromagnetic compatibility. Requirements and tests	HTM 17	Health Building Engineering Installations
BS EN 60669-1:2018	Switches for household and similar fixed-electrical installations. General requirements	HTM 2014	Abatement of electrical interference
BS EN 61000-6-3:2021	Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments (formally BS EN 50081-1)	HTM 2020	Electrical safety code for low voltage systems
BS EN 61000-6-4:2019	Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments	CIBSE LG 02: 2019	Lighting guide - Hospitals and health care buildings
BS EN 61000-6-1:2019	Electromagnetic compatibility (EMC). Generic standards. Immunity for residential, commercial and light-industrial environments (formally BS EN 50082-1)	CIBSE LG 3: 2001	Lighting guide - The visual environment for Display Screen Use
BS EN ISO 7396-1:2016 +A1:2019	Medical gas pipeline systems. Pipeline systems for compressed medical gases and vacuum	CIE	European Lighting Guide
BS EN ISO 7396-2: 2007	Medical gas pipeline systems. Anaesthetic gas scavenging disposal systems	NHS SPEC C49: 1997	Nurse Call Systems. Revision 3
BS EN ISO 9170-1:2017	Terminal units for medical gas pipeline systems. Terminal units for use with compressed medical gases and vacuum	EU MDR 2107/745	EU Medical Device Regulation
		UK MDR 2002	UK Medical Device Regulations (SI 2002 (no. 618, as amended)







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