

# Laboratory and healthcare systems

[www.marshall-tufflex.com](http://www.marshall-tufflex.com)



A range of cable management systems that are particularly suitable for the laboratory, medical and healthcare environment.

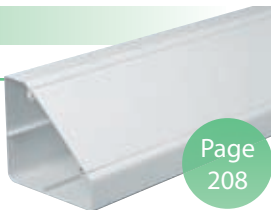
Marshall-Tufflex has many years of experience in providing cable management solutions for the medical and healthcare environments. The company ensures that products and product ranges meet the highest possible standards for individual product requirements. Trunking systems for this very specialised type of application are available in both aluminium and PVC-U, are available to carry gas, power, data, telecoms and nurse call, providing first class screening performance and optional antimicrobial protection.

## PVC-U Antimicrobial bio trunking

### Bench Trunking

**105 x 105mm**

A robust, angled trunking that can be sub-divided and is suitable for laboratory and medical workbenches or angled under shelving. Compartment can be sub-divided and screened if required.

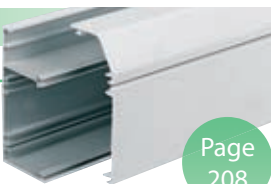


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### Compact Trunking

**130 x 50mm to 181 x 50mm**

A range of small and medium sized, 2 compartment, dado and skirting systems with varying compartment sizes. Compartments can be sub-divided and screened if required.

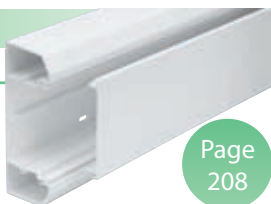


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### Mono Plus 20 Trunking

**140 x 50mm**

A smaller, 3 compartment, dado trunking with a single cover for use where space is limited. Compartments can be sub-divided.



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### Sterling Profile

**167 to 269 x 50mm**

A range of medium to larger sized trunking systems for dado and skirting application. Sterling Profile has separate compartments with individual covers. Compartments can be sub-divided and screened if required.

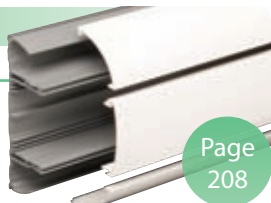


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### Odyssey

**180 x 57mm**

Curved profile dado trunking with 1 main compartment and 2 smaller compartments. Odyssey's curved profile is designed to minimise surface dust and clutter. Compartments can be sub-divided and screened if required.

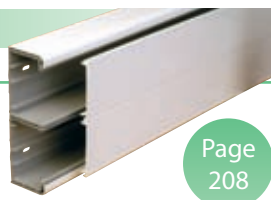


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### Twin Plus Trunking

**210 x 57mm**

Large dado and skirting trunking with 2 deep compartments that provide high capacity for carrying power and data services. Compartments can be sub-divided and screened if required.



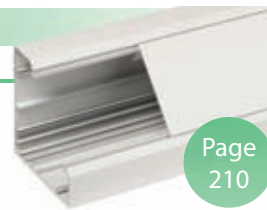
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## Aluminium systems

### Bench Trunking

**105 x 105mm**

A robust, angled trunking that can be sub-divided and is suitable for laboratory and medical workbenches or angled under shelving. A PVC-U dividing fillet is available with screening if required.

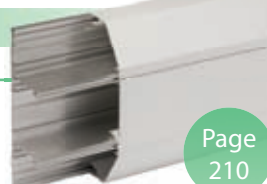


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### XL Trunking

**220 x 65mm to 308 x 65mm**

A range of large 3 and 4 compartment dado and skirting trunking systems with separate compartments and individual covers. XL Trunking can accept gas and air outlets and can be extended to provide additional compartments. A PVC-U dividing fillet is available with screening if required.



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### MT Conquest Medical Units

**310 x 65mm and 360 x 65mm**

Assembled to specification, MT Conquest medical units are designed to include outlets for gas, air, power, data, nurse call and other services. A PVC-U dividing fillet is available with screening if required.



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## Other Bio options for PVC-U trunking

In addition to the systems shown here, we can also offer Bio options for PVC-U trunking in:

- Twin 165 Trunking
- XL Trunking
- Mini Trunking and
- Maxi Trunking
- Twin Plus

### Note:

For Twin 165 Trunking and for XL Trunking please refer to the PVC-U Perimeter Systems section on page 51.

### Note:

For Mini, Maxi and Bench Trunking systems please refer to the PVC-U Domestic and general trunking section on page 145.

## Special solutions

The dedicated Specialised Applications team addresses some of the difficult cable management challenges encountered by designers, consulting engineers and contractors and provides bespoke product solutions to suit individual installations. Marshall-Tufflex is very experienced in working within the medical, healthcare and laboratory environments.

### Ceiling trunking

Inverted lengths of XL trunking with aluminium base, carrying gas, telecoms, data and power from the ceiling to laboratory workbenches and equipment below.



### Inverted ceiling mounted PowerPost

PowerPosts suspended from the ceiling to supply segregated services to workbenches and equipment below.



### Folding ceiling mounted PowerPosts

Specially adapted hinged, hanging PowerPosts that can be lifted and parked out of the way above head height when not required.



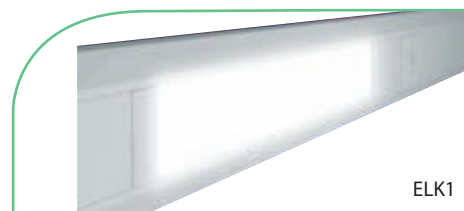
## Lighting kits

Lighting Kits may be used with PVC-U and aluminium versions of many of our perimeter trunking systems and are extremely useful, for example in laboratory areas where direct light is required over working surfaces.

- Miniature compact electronic fluorescent fitting, 17W, 1050 lumens 3500K (undiffused), length 500mm approx, fluorescent fitting life 10,000 hours.
- Input connection lead.
- Self-adhesive fluorescent fitting mounting clips.
- Self-adhesive vertical support clip,
- Opal diffuser lid, PVC-U.
- Diffuser lid couplers, PVC-U.
- Switch and mounting box assembly, 6Amp, 2-way.
- Installation notes.

code	Application
ELK1WH	Mono Trunking
	Compact Trunking – main compartment
	Sterling Profile – main compartment
	XL Trunking – main compartment
	Twin Plus
	PowerPoles and Posts
	Bench Trunking
ELK2WH	XL Trunking – angled outer compartment
ELK3WH	XL Trunking – square outer compartment

For further advice and details of custom-designed Lighting Kits, please call our Technical Team on 01424 856688.



ELK1



ELK2

**What is an HCAI?**

An HCAI is a healthcare acquired infection and these are currently very prevalent within the healthcare environment as bacteria become more resistant to antibiotics. Although coughs and sneezes do spread infection, there are also concerns about the spread of infection from person to person via surfaces such as door handles, wall surfaces and cable containment.

**What do these bacteria do?**

Certain microbial organisms are harmful to people and can proliferate to cause infections and disease. They can also cause product deterioration, discolouration and bad odours.

**How can we improve things?**

The responsible option is to control these organisms whenever possible and wherever infection control is of importance, particularly in environments such as:

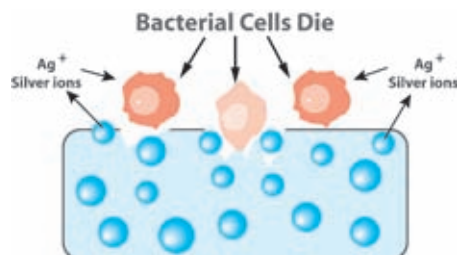
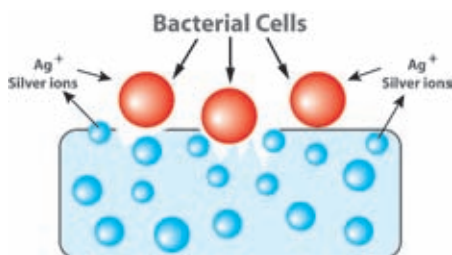
- Hospitals
- Nursing and care homes
- Medical and dental units
- Surgeries
- Sports and health centres

**Why use antimicrobial PVC-U trunking?**

Ordinary cable containment is susceptible to the spread of disease from one person to another via its surface. Again, the responsible option is to use antimicrobial systems incorporating silver ions. Bio Trunking ensures active antimicrobial care twenty-four hours a day, seven days a week and should be used alongside a normal cleaning regime.

**What is silver ion technology?**

For many decades, silver ions have been shown to exert a recognised bactericidal effect. When incorporated within materials, silver is toxic to multiple components of bacterial cell metabolism, damaging the cell wall and membrane permeability.

**Bio test reports**

For the results of independent testing of the Marshall-Tufflex antimicrobial Bio Trunking solution, please refer to the test reports in the technical section of Laboratory and Healthcare on page 291.

**Bio trunking has demonstrated effectiveness against:**

- Methicillin Resistant Staphylococcus aureus (MRSA)
- Klebsiella pneumoniae
- Streptococcus pyogenes
- Enterococcus faecalis
- Escherichia coli
- Pseudomonas aeruginosa
- Acinetobacter baumannii
- Bacillus subtilis
- Salmonella
- Legionella

## Case Study 1

**For:** Derriford Hospital, Plymouth

**Specifier:** Plymouth Hospitals NHS Trust, Electrical Estates Department



**The Marshall-Tufflex Bio Trunking Solution was used for the eleven operating theatres at Derriford Hospital, Plymouth, an acute general hospital that is part of Plymouth Hospitals NHS Trust.**

Installed as part of a strict, on-going process to control the spread of infection, Odyssey Bio Trunking was specified by Plymouth Hospitals NHS Trust's Electrical Estates department.

Plymouth Hospitals NHS Trust has been named as one of the top performing Trusts in the country. This Odyssey Bio Trunking installation was part of an upgrade to the monitoring system, linking essential patient data during an operation - such as blood pressure, pulse and heart rates - to a central information processing unit.

The Theatre Estates department of Plymouth Hospitals NHS Trust said: *"Odyssey Bio is superb... we're very pleased with it. We think it's a product that is likely to come to the fore in control of infection, as NHS Trusts up and down the country tackle the continuing threat of virulent infectious diseases."*

## Case Study 2

**For:** University Hospital of North Tees, Stockton

**Specifier:** North Tees Hospital Estates Engineering



**North Tees Hospital in Stockton specified Odyssey Bio trunking for an electrical upgrade to the stroke ward, to help prevent the spread of infection.**

The University Hospital of North Tees is part of the North Tees and Hartlepool NHS Foundation Trust and ranks highly in DoH figures for reduction in MRSA.

North Tees Hospital Estates department liked the unique curve of the Cat 6 compliant, antimicrobial containment system and comment: *"Flat surfaces gather dust and dust gathers bugs so Odyssey's curved profile was a big bonus."*

Marshall-Tufflex's Odyssey Bio is tested to quantitative standard ISO 22196:2007, which shows the survival rate of tested bacteria to be less than 0.1%. It will therefore help to counteract harmful bugs, such as MRSA, Klebsiella Pneumonia, E-coli and Salmonella, and help to avoid cross contamination in medical and other high risk applications when combined with stringent hygiene routines.



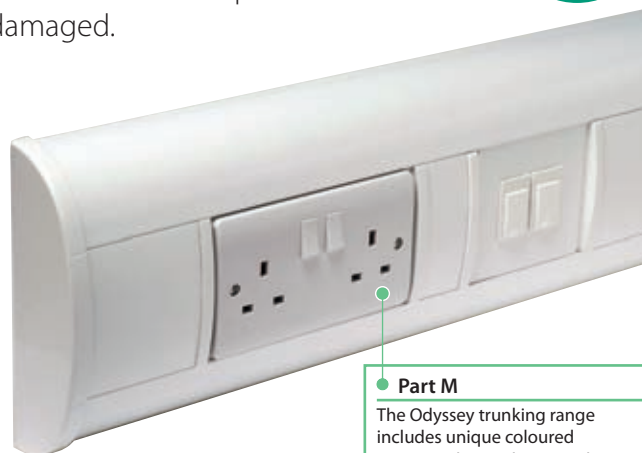
Where hygiene is a priority, we offer cable management systems that incorporate antimicrobial protection within the PVC-U material. Bio Trunking Solutions provide silver ion technology integral to the trunking, preventing 99.9% of harmful bacterial growth and ensuring there is no reduction in effectiveness of the antimicrobial protection for the lifetime of the trunking, even if it is scratched or damaged.



#### Product information

- Silver ion technology to neutralise harmful bacteria including MRSA.
- Proven reductions in bacterial viable count by more than 99.9%.
- Tested to ISO 22196:2007.
- Durable non-leaching antimicrobial treatment that is inherent within the PVC-U material.
- Effective for the lifetime of the product.
- Registration with the Environmental Protection Agency (EPA).
- Compliance with the European Biocidal Products Directive (BDP).
- Antimicrobial Bio Trunking Solutions provide an extra level of protection when combined with normal cleaning procedures.

Standard colour
WH
WH: White



#### Part M

The Odyssey trunking range includes unique coloured accessory boxes that comply with the requirements of Part M (DDA). (See page 57)

### Bio trunking solutions



#### Odyssey Trunking

A trunking system with a unique curved profile and flush accessories

- 180 x 57mm
- 3 segregated compartments.
- Curved profile does not allow placement of objects.
- Flush accessories maintain smooth profile.
- Internally reinforced for extra mechanical strength.
- Tamper-resistant trunking and fittings that locate with a special clip design.
- Lock feature for adjustable corners.
- Covers only require Bio protection.



#### \*Sterling profile 1

A range of 3 compartment, mid-size, multi-profile trunking systems.

- 167 x 50mm
- Three segregated compartments
- Separate cover access to each compartment
- Can be fed from larger trunking systems for increased cable distribution
- Covers only require Bio protection

#### \*Note:

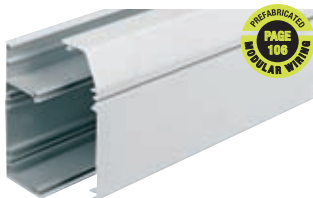
The Sterling Profile range includes various profile configurations and sizes. For more information please refer to page 74.



#### Mono plus 20 trunking

An economical 3 compartment trunking designed to fit areas that have height restrictions.

- 140 x 50mm
- Three segregated compartments
- Suitable for height restricted applications
- One piece fittings with single lid access for improved security
- Base and cover require Bio protection



#### \*Compact 1 trunking

Range of 2 compartment systems designed to fit areas that have height restrictions.

- 130 x 50mm
- One full size and one half size compartment
- Suitable for height restricted applications
- Separate cover access to each compartment
- Can be fed from larger trunking system for increased cable distribution
- Base and covers require Bio protection

#### \*Note:

The Compact Trunking range also includes Compact 2 and Compact 3. For more information please refer to PVC-U perimeter trunking section, page 66.



#### Twin Plus trunking

High capacity segregated, 2 compartment system designed for carrying large quantities of Cat 6 data.

- 210 x 57mm
- Two large segregated compartments
- Separate cover access to each compartment
- Extra depth for increased cable capacity
- Base and covers require Bio protection



#### Bench trunking

Robust, angled trunking carrying segregated services for bench, worktop or desk mounting.

- 105 x 105mm
- Can be designed and pre-wired to specification
- Back to back configuration possible
- Positive fixing lids for easy re-configuration of cabling
- Base and cover require Bio protection

Bio trunking component chart						
	Bench trunking 105 x 105mm	Compact 1 trunking 130 x 50mm	Mono Plus 20 trunking 140 x 50mm	Sterling Profile 1 167 x 50mm	Odyssey trunking 187 x 57mm	Twin Plus trunking 210 x 57mm
<b>Trunking assembly</b>						
pack 1 x 3m	MBT105BIOWH	–	–	–	DD1B	–
<b>Base</b>						
pack 1	–	ETB2BIOWH	EMT20BIOWH	ETB1	–	EMT60BIOWH
<b>Main cover</b>						
pack 1	–	ETL1BIOWH	ETL1BIOWH	ETL1BIOWH	–	2x ETL1BIOWH
<b>Angled outer cover</b>						
pack 1	–	ETAC1BIOWH	–	2x ETAC1BIOWH	–	–
<b>Square outer cover</b>						
pack 1	–	–	–	–	–	–
<b>Dividing fillet</b>						
pack 1	BDF105WH	–	EDF1	EDF1	–	LDF1
<b>End cap (1 piece)</b>						
pack 1	BEC105BIOWH	EECHC1LHBIOWH EECHC1RHBIOWH	EEC20BIOWH	EECHP1BIOWH	DD1233	*EEC60BIOWH
<b>Coupler (1 piece)</b>						
pack 1	BTC105BIOWH	ECHC1BIOWH	EC20BIOWH	ECHP1BIOWH	DD1213	*EC60BIOWH
<b>Internal bend (1 piece)</b>						
pack 1	BIA105BIOWH	EIBHP1BIOWH	EIB20BIOWH	EIBHC1BIOWH	DD1313 ...DATA...	*EIB60BIOWH
<b>Internal adjustable bend</b> ...DATA...						
pack 1	–	–	–	–	DD1333 ...DATA...	–
<b>Internal data bend assembly</b> ...DATA...						
pack 1	–	ELBCD1BIOWH	–	ELIBD1BIOWH	–	–
<b>External bend (1 piece)</b>						
pack 1	BEA105BIOWH	EXBHC1BIOWH	EXB20BIOWH	EXBHP1BIOWH	DD1353 ...DATA...	*ESXB60BIOWH
<b>External adjustable bend</b> ...DATA...						
pack 1	–	–	–	–	DD1373 ...DATA...	–
<b>External data bend assembly</b> ...DATA...						
pack 1	–	ELOBCD1BIOWH	–	–	–	EXB60BIOWH
<b>Flat angles (up or down)</b>						
pack 1	–	EFAC1UBIOWH EFAC1DBIOWH	EFA20BIOWH	EFA1BIOWH	DD1413 ...DATA...	EFA60BIOWH
<b>Flat tees (up or down)</b>						
pack 1	–	EFTC1ULBIOWH EFTC1URBIOWH EFTC1DLBIOWH EFTC1DRBIOWH	EFT20BIOWH	EFT1BIOWH	DD1433 ...DATA...	EFT60BIOWH

**Bio trunking codes**

Codes for Bio Trunking Solutions are created by inserting the letters BIO before the colour code e.g. EEC201WH becomes EEC201BIOWH

**Note:** Odyssey is the exception to this rule.

**Other Bio options for PVC-U trunking**

In addition to the systems shown here, we can also offer Bio options for PVC-U trunking in:

- Twin 165 Trunking
- XL Trunking
- Mini Trunking and
- Maxi Trunking
- Twin Plus

**Note:**

For Twin 165 Trunking and for XL Trunking please refer to the PVC-U Perimeter Systems section on page 51.

**Note:**

For Mini, Maxi and Bench Trunking systems please refer to the PVC-U Domestic and general trunking section on page 145.

**Twin Plus**

\*Fittings are two piece.

**Screening**

Copper spray screening is available for Bio Trunking, however, when ordering screened products with an antimicrobial treatment, we would always advise you to contact our Technical Team on 01424 856688 before placing an order.

Aluminium systems with multiple compartments providing LSOH containment for wiring, gas and air services, suitable for the healthcare and laboratory environments.

#### Product information

##### XL Trunking

- 220 and 308 x 65mm
- 3 and 4 compartments
- Extendable base allows for additional compartments
- Main compartments can accept gas outlets
- Standard 3m length stock item
- Accepts standard UK wiring and data accessories
- Covers for gas mounting plates can be pre-punched to accept gas outlets

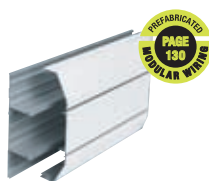
##### Bench Trunking

- 105 x 105mm
- Can be sub-divided into 2 compartments
- Not intended for gas or air services
- Suitable for desk, bench or worktop applications
- Accepts standard UK wiring and data accessories



- Range of compartments numbers and sizes
- Provision for gas, air, power and data outlets
- Bespoke designs available
- See below for box assemblies that meet the requirements of Part M

Standard colour
WH
WH: White



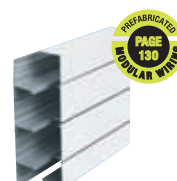
**XL 301**  
size 220 x 65mm



**XL 303**  
size 220 x 65mm



**XL 311**  
size 308 x 65mm



**XL 313**  
size 308 x 65mm

**Note:** For additional information on XL Trunking Aluminium, please refer to the section Aluminium Perimeter Trunking Systems on page 116.



Gas mounting plate  
For MT Conquest  
and XL Trunking

code	description	pack
EEBH05	1 gang	1
EEBH04	2 gang	1
EEBH03	3 gang	1

#### Note:

MT Conquest medical service units Series 220 and Series 240 are made to specification.



#### Bench trunking

code	size	pack
Base: MBTAB105	105 x 105mm	1 x 3m
Cover: MBTAL105		1 x 3m

#### Part M

1 and 2 gang box assemblies with contrasting coloured flush plates are available to comply with the requirements of Part M (DDA).








code	description	pack
ESPM1BU	1 gang - blue plate	1
ESPM1CH	1 gang - charcoal plate	1
ESPM1RD	1 gang - red plate	1
ESPM2BU	2 gang - blue plate	1
ESPM2CH	2 gang - charcoal plate	1
ESPM2RD	2 gang - red plate	1

#### Odyssey Part M box

Odyssey coloured boxes have a unique construction to provide Part M compliance. Please insert the required colour code after the product code, as shown below: BG = Beige; BN = Brown; BU = Blue; CH = Charcoal; GN = Green; LG = Light Grey; RD = Red.

code	description	pack
DD1510BU	1 gang	1
DD1520BU	2 gang	1



Aluminium component chart					
	XL 301 trunking 220 x 65mm	XL 303 trunking 220 x 65mm	XL 311 trunking 308 x 65mm	XL 313 trunking 308 x 65mm	Bench trunking 105 x 105mm
					
<b>Base unit</b>					
pack 1 x 3m	ELTB300	ELTB300	ELTB300	ELTB300	MTAB105WH
<b>Extendable base</b>					
pack 1 x 3m	–	–	ELEB300	ELEB300	–
<b>Main cover</b>					
pack 1 x 3m	LTL1WH	LTL1WH	2 x LTL1WH	2 x LTL1WH	MTAL105WH
<b>Angled outer cover</b>					
pack 1 x 3m	2 x ELAC300WH	–	2 x ELAC300WH	–	–
<b>Square outer cover</b>					
pack 1 x 3m	–	2 x ELSC300WH	–	2 x ELSC300WH	–
<b>Dividing fillet</b>					
pack 8 x 3m	ELDF200	ELDF200	ELDF200	ELDF200	BDF105WH
<b>End cap</b>					
pack 5	EEC401WH	EEC403WH	EEC401WH & ELLEC400WH	EEC403WH & ELLEC400WH	BEC105WH
<b>Coupler</b>					
pack 5	EC401WH	EC403WH	EC401WH & ELLEC400WH	EC403WH & ELLEC400WH	BTC105WH
<b>Internal bend</b>					
pack 5	EIB401WH	EIB403WH	EIB401WH & ELLIB400WH	EIB403WH & ELLIB400WH	BIA105WH
<b>External bend</b>					
pack 5	EXB401WH	EXB403WH	EXB401WH & ESLEB400WH	EXB403WH & ESLEB400WH	BEA105WH
<b>Flat angles (up/down)</b>					
pack 1	EFA301WH	EFA303WH	EFA311WH	EFA313WH	–
<b>Flat tees (up/down)</b>					
pack 1	EFT301WH	EFT303WH	EFT311WH	EFT313WH	–
<b>Bonding terminal assembly</b>					
Incoming 16mm <sup>2</sup> / Base to base 63 amp Pack 5	LBT1 / LBT2	LBT1 / LBT2	LBT1 / LBT2	LBT1 / LBT2	LBT1
<b>Bonding strap</b>					
Base to base 32amp pack 5	LBS1	LBS1	LBS1	LBS1	LBS1
<b>Bonding strap Cover to base)</b>					
pack 5	LBS2	LBS2	LBS2	LBS2	LBS2
<b>1 gang accessory box</b>					
pack 20	ESSB1WH	ESSB1WH	ESSB1WH	ESSB1WH	–
<b>2 gang accessory box</b>					
pack 10	ESSB2WH	ESSB2WH	ESSB2WH	ESSB2WH	–
<b>1 gang adjustable box</b>					
pack 10	EAB1WH	EAB1WH	EAB1WH	EAB1WH	EAB1WH
<b>2 gang adjustable box</b>					
pack 5	EAB2WH	EAB2WH	EAB2WH	EAB2WH	EAB1WH

The MT Conquest range of Medical Service Units (bedhead units) are for horizontal applications and can accommodate a full range of services including gas, vacuum, nurse call, lighting, entertainments and power. MT Conquest are bespoke units and made to individual specification, making them an ideal solution for smaller hospitals, clean rooms, laboratories, factories with gas and air requirements, medical centres and surgeries.

#### Product information

##### MT Conquest

- 310 and 360 x 65mm
- 2 wiring compartments plus 1 large gas compartment
- Covers for gas mounting plates can be pre-punched to accept gas outlets
- Bespoke design to suit client specification
- 6060T5 aluminium, powder coat finish to RAL 9016
- Accepts standard UK wiring and data accessories



#### MT Conquest



Series 220

size 310 x 65mm



Series 240

size 360 x 65mm



Gas mounting plate  
For MT Conquest  
and XL Trunking

code	description	pack
EEBH05	1 gang	1
EEBH04	2 gang	1
EEBH03	3 gang	1

### Case Study 1

**For:** Africa Mercy Ship

**Product:** MT Conquest Medical Service Units and XL303 Trunking



**Mercy Ships is a global charity that has operated hospital ships in developing nations since 1978, serving those in desperate need of medical treatment free of charge without regard for race, gender or religion.**

Marshall-Tufflex provided some very specific cable management solutions for the Africa Mercy Ship during its refit at Tyneside.

In all medical areas of the ship, MT Conquest Series Medical Service Units were installed. A specially tailored solution of twenty-seven horizontal units were supplied at varying lengths from 2.5 metres to 6.0 metres, all with a riser to the ceiling at one end to accommodate incoming supply.

Faceplates for gas valves, 1 and 2 gang switched sockets, outlets for data and telephone, and light switches, were all provided within each module and the Medical Service Units were installed by Marine Electrical Engineers, TBL Marine.