

MODULAR

OTs | ICUs | ER



ULTRA CLEAN CONCEPTS



AN INTRODUCTION

Historically, the term "operating theatre" referred to a non-sterile, tiered theatre or amphitheater in which students and other spectators could watch surgeons perform surgery. Contemporary operating rooms are devoid of a theatre setting, making the term "operating theatre" a misnomer.

The most complex and challenging area of hospital construction is the operating department. The Modular Operation Theatre (MOT) offers the advantage of speedy construction combined with design, future expansion and development in surgical technique whilst simultaneously providing a structure of the highest quality and standards.

Modular OT, where most integrated functions are always required, such as hygiene must be preserved with safety facilities, equipment and device must be maintained any times. Furthermore, the working environment for medical staff such as doctors and nurses must be considered from the view point of human engineering.

MedFreshe modular operating theatre apparatus has been satisfying those conditions consists of a ceiling, slanted panels, walls, doors and is capable of incorporating not only electrical equipment, medical gas pipeline system (MGPS) and lighting gears but all the necessary functions and equipments at need. In addition, it has a high accessibility with high workability and ample functions, which is provided for the introduction of a new facility in the future.

The modular operation theatre (MOT) integrated approach to the construction and co-ordination of operating Theatre.



Features

- A continuous flow of highly filtered 'bacteria-free' air is reticulated under positive pressure into the operating field and air contaminants generated during surgery are removed from the site.
- With anti-bacterial paint - has minimum durability of 15 years.
- Seamless.
- Easy to clean steam cleaned, electro metric (ideal for high humidity areas)
- Vapour permeability (allows substrate moisture to escape) protects against growth of bacteria, mould and yeasts
- Moisture resistance, freeze / thaw resistance.

Main Systems / Equipment

- Plenum Unit (Laminar Air Flow)
- The Wall & Ceiling
- Air & Light
- Pendants
- Hermetically Sealed Door
- O.T. Control Panel
- X-ray / Pac Viewer
- Pressure Relief Damper
- Scrub Sink
- O.T. Table
- Anti-Static Flooring
- Writing Board
- View Window
- Hatch Box
- Equipment Storage Unit
- Pressure Stabilizer

Modular ICU





Plenum Unit (laminar Air Flow)

Bacteria cause infection within operating Theatre. The selection of ceilings should suits all surgical applications. Ceiling should be provided with optional air-conditioning and control systems, or as part of an existing mechanical services systems, the range of specialist ceilings reduce the risk of post-operative infection, whilst providing optimum comfort through the use of conditioned, filtered clean air. System allows the client to select from a variety of lighting and diffuser arrangements to suit the specific requirements of the operating team. The ceilings consist of a plenum box supplied with conditioned air from the central system via

HEPA filters mounted on the inlet to the supply ceiling. All HEPA filters and housings are factory tested and certified in accordance with DIN: 1946 and DIN:4799. All ceilings incorporate supports to secure them to the main structural frame of the modular operating theatre, or structural slab.

The Wall & Ceiling



The modular operation room will be a free standing structure. Constructed room composite free standing. These panels are produced of EGP sheet, S.S.-304 , S.S.-316 sheet or glass panels . All the four corners have return air duct outlets and grill for the same made of steel duly powder coated with the color choice to suit the hospital. Distance between the walls and panels to be around 100 mm, it have full support to provide straight by using clamps near the columns. Additional space can be utilized for making storage area/ hatch box (pass box/cabinet). Anti bacterial paint does not leach out so that its anti microbial system remains active through out the life of the product. The tolerate harsh cleaning and chemical agents dry film thickness of finished surface to be 200 microns. Filling of all joints and cavities with metallic epoxy filler and sanded flush to provide a joint-less finish and them sprayed with water based liquid plastic aseptic and self-sterilizing wall coating system to a d.f.t. of 200 micron with primer.

Energy Bridge



We first implemented the idea of enclosing the operating field with an energy supply bridge – and immediately met with a very broad positive response.

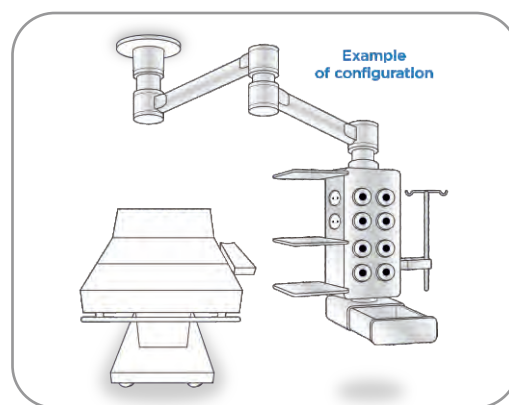
Typically, the our energy supply bridge is immediately noticed because of its exceptionally compact design.

The exceptionally compact design, giving it a unique elegance strikingly different from other brands. Moreover, the flexibility of our equipment carriers underlines just how ergonomic and easy-to-use our energy bridges are.

Yet despite the extremely compact form, our energy supply bridge is exceptionally robust, as evidenced by the excentrally arranged monitor consoles and arms.

Our energy supply bridge service side is deliberately set away from the aseptic operating field – a solution maintaining a distance between the laminar field and the bridge, systematically preventing non-sterile equipment from projecting into the sterile laminar field.

Pendants



In an Operating Theatre, the two most important personnel are the anaesthetists and the surgeon. With their handy uses next to them, they form a group of specialized people who strive to heal and save lives. A well designed working environment is much appreciated by them. This includes proper ventilation, advance surgical tools and also positioning of the supply system. The anaesthetist is always positioned behind the patient's head and the surgeon towards the patient's leg.

Pendants provide:

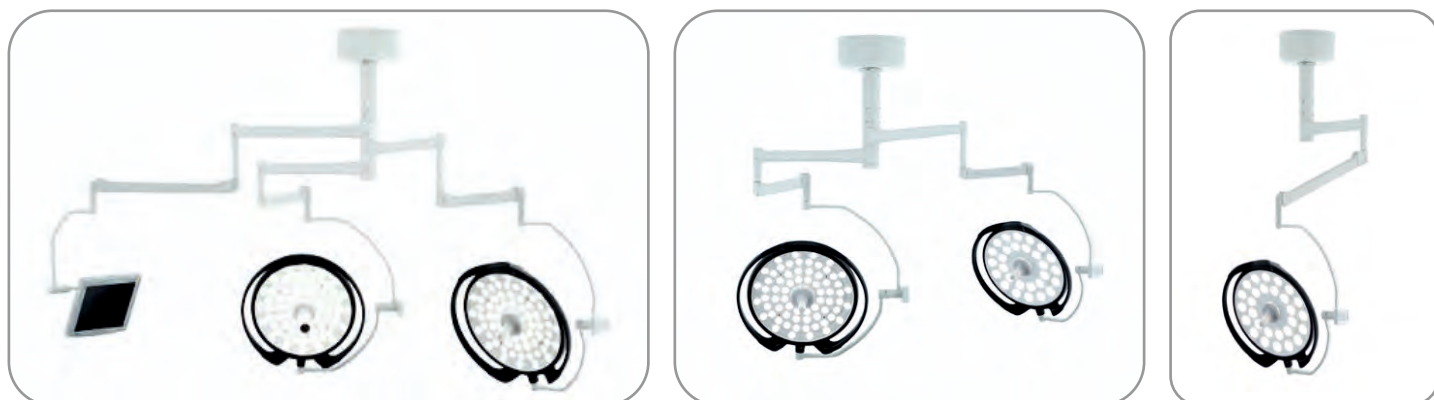
Medical gases supply to equipment | Electrical power supply | Data points | Shelves for some equipment | Drawers for accessories | Support arms for mounting monitors, pumps... etc. | Mounting of Medical Devices and others

Hermetically Sealed Door



The use of hermetically sealed sliding doors is to maintain satirically and the correct air pressure in the room, which requires less valuable space than hinged doors. The doors are operated manually and/or automatically with microprocessor based electronic automation system. The door frames are made out of high quality anodized aluminum extrusion and the door panel made out of compact laminated board that can withstand high abrasions. The controllers are capable of either being operated by elbow switches/ foot Switches, radar switch (touch less sensor). All doors able to be operated manually easily in the event of failure power supply or the automation unit.

Surgical Light



Surgical light plays a vital role in operation theatre. Operating lights are designed to meet all surgical illumination requirements of operating theatres. New generation LED technology helps the surgeons to operate and view the surgery area clearly. LED lights can be adapted in any size of operating theatres including large hybrid types with variety of models & combinations.

Manoeuverability

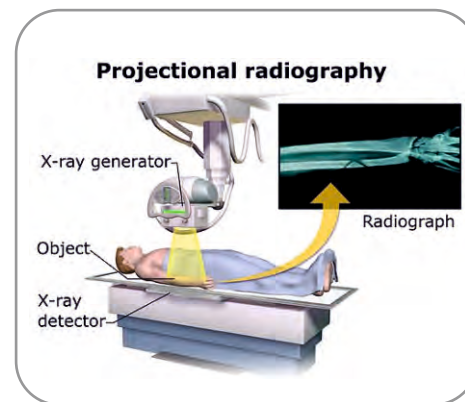
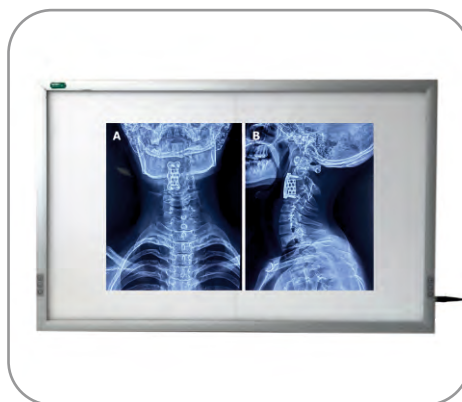
The Lux surgical lights have both A and B rotation points extremely close to the centre, allowing exceptional, near ball-joint mobility. With fingertip light manipulation. Lux lamps can be positioned in the appropriate angle.

O.T. Control Panel



All the controls for the modular operation theatre are to be provided on a membrane type, micro controller based electronic control panel mounted in the theatre wall. Control panel to meet the electrical safety codes for high and low voltage systems. The control panel to be user friendly and ease of operating and maintenance purpose. The fascia to be made with superior quality UV resistance membrane with sterilization feature.

X-ray / Pac Viewer



X-Ray Viewer is low on power consumption, provides a homogeneous imaging effect a shadow free design that dissipates very low energy and heat and is suitable to be used for long hours.

The viewer is available in single & double plates construction as standard product for operating theatre

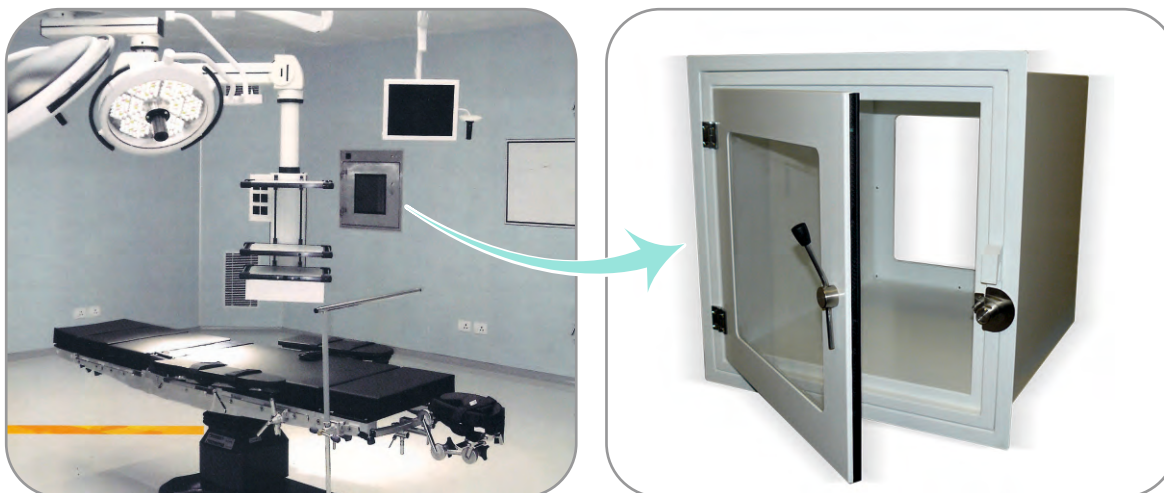
Also available for the other areas of hospitals.

Pressure Relief Dampers



A modular OT or ICU should always have a positive pressure as compared to the outside environment. As more and more Sterile air is being inducted into the room, a suitably sized Air Pressure Releaser is required to be installed in the room. This S.S. fabricated product with adjustable blades is an integral part of Ultra Clean Rooms.

Hatch Box



A Hatch is provided in each Operation Theatre to remove waste materials from the Operation Theatre to Dirty linen Area just adjacent to Operation Theatre. Hatch Box is equipped with two doors and the door is operated electronically and designed in such a way that only one door will be opened at one time.

A UV light is so installed that it is kept 'ON' while both the doors are closed, this UV light shall automatically be turned 'OFF' in case the door open. Indicators on both sides of the OT indicates the open/close status of both sides.

Surgical Scrub Station



The unit is made of 304 grade high quality stainless steel square tubes and the entire body work made out of high quality stainless steel of 16 & 18 Gauge with satin polish finish.

The unit has a floor mount design with pedestal base. Tailor made to suit the site available. The unit is compatible with all the regular and standard plumbing. The unit has sensor controlled water flow based on advanced microprocessor system. The unit has user selectable time-out control for rinse timing. The unit has thermostatic control of water temperature.

The unit has irrigation facility to allow washing of instruments, tubes, endoscopes etc. The body is designed to eliminate backsplash, overflow and stagnation. The unit has option of manual actuated water supply by or foot operated taps. Soap operation is available by both a hand pump as well as hand free controls. The unit has jet irrigation facility to allow washing of instruments, tubes, endoscopes etc.

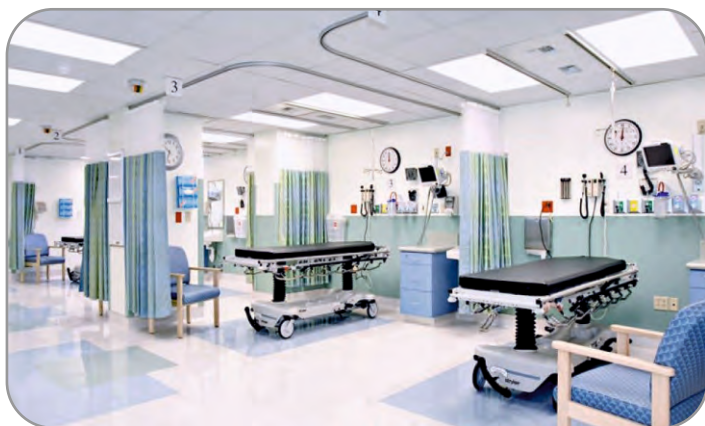
Available in Single User, Two User & Three Users Models.

Equipment Storage Unit



The stainless steel storage cabinets brings ease and simplicity to any healthcare space with a diverse line of storage cabinets. From supply cabinets to desk consoles, these storage solutions are fully customizable and can adapt to a variety of clinical environments. Eliminate clutter and gain valuable floor space while enjoying convenient access to the supplies required for patient care.

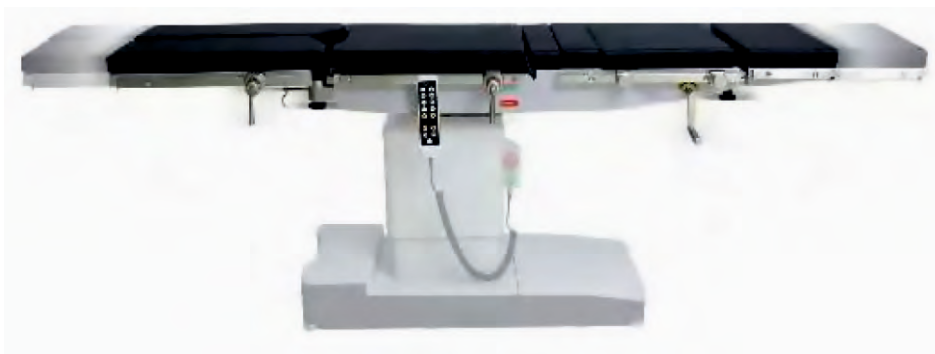
Emergency Room



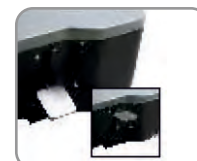
The resuscitation area, commonly referred to as "Trauma" or "Resus", is a key area in most departments. The most seriously ill or injured patients will be dealt with in this area, as it contains the equipment and staff required for dealing with immediately life-threatening illnesses and injuries. Typical resuscitation staffing involves at least one attending physician, and at least one and usually two nurses with trauma and Advanced Cardiac Life Support training.

Fast decisions on life-and-death cases are critical in hospital emergency departments. As a result, doctors face great pressures to overtest and overtreat. The fear of missing something often leads to extra blood tests and imaging scans for what may be harmless chest pains, run-of-the-mill head bumps, and non-threatening stomach aches, with a high cost on the health care system.

Operation Theater Table



Emergency Stop



Base Lock



Foot Leveller

SALIENT FEATURES

- Five section eccentrically positioned RADIO TRANSLUCENT table top without cross members facilitates C-arm imaging.
- Operating positions i.e. Height adjustment, Trendelenburg, Reverse Trendelenburg, Lateral Tilt and Back Section are quickly and precisely controlled by handheld Remote with symbolic soft touch buttons.
- The powered movements are actuated by an IMPORTED ELECTRO-HYDRAULIC SYSTEM comprising of hydraulic motor pump and solenoid valves to assure smooth and quiet movements.
- Head and Foot Sections are removable and interchangeable, capacitating a single table's use in varied surgical procedures. These are manually operated by means of ratchet system.
- Built-in Kidney Elevator - manually gear operated.
- Maintenance Free Lifting System: State-of-the-art lifting system



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Data, Specifications & Components design given are approximate.