

MODULAR
OPERATION
THEATRE

A HOUSE OF LIFE SAVING
PRODUCTS

MODULAR
OPERATION
THEATRE



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About us

Life Care Products is leading company providing a new age health care solutions to the nation. Company is dedicated in designing, constructions, manufacturing, fabrication supply and installation of Medical Gas Pipe Line System and Modular Operation Theatres.

Our motto is to be the leading provider of new age solution for Medical Gas Pipe Line and Modular Operation Theatres. The guiding philosophy with the Life care products has been to identify latest cutting edge technologies all over the world understand its relevance to Indian market and help the users in india with its acquisition, applications and maintenance. We get access to the latest technology and world class products from our principals who is incidentally enjoy a market lead position in the world, in the field of Medical Gas Pipe Line System, OT Pendants, Bed Head Panels, Modular O.T., Laminar Air Flow System, Nurse Call Systems.

The Life Care Products started in 1991 and in this tenure we achieve a remarkable position in the field of Medical Gas Pipe Line System and Modular Operation Theatre.

Moreover our company believes in continuous upgrading of technology and we invest a certain percentage of our margin in Research and Development, to develop high performance innovative products. Offering the facility of customized is one of the core areas of our company. Our customer can avail the facility of customization as per their specification at most competitive prices. Our expertise is delivering customized medical solutions within the stipulated time period helped us to gain the trust and support of our clients over our products range and also on our services.

We have a team of dedicated professionals in sales, execution, after sales service and R & D. The Research work of our product range is done on various attributes, thus meeting the various requirements of our esteemed clients. The attributes are :

- State of Art designs
- Safety adherence
- Smooth functioning of all components

Why Life Care Products :

- Use of advance technology.
- International quality standards
- Offer best competitive prices.

Life Care Products is financially sound company having its core business of providing turnkey solutions of hospitals for medical gas pipe line, modular operation theatres, nurse call system, O.T. Light, O.T. Table Scrub Sink, Anti Bacterial Paint, Anti Static Flooring etc. In house professionals consultants having specialized experience for the respective projects. Dedicated experienced team for execution of different projects and thoroughly professionally managed company. Corporate policy aids in our growth and development. The four pillars of our corporate police includes :

- Transparent work culture
- Customer orientation
- Professional and ethical values
- Sound Business Policies

*Bringing
life closer to you*



PRODUCTS MANUFACTURED BY US

- Pre-Fabricated modular Operation Theatres in Galvanised Steel Panels, High Pressure Laminate Panels, PUF Panels as per Customer requirement.
- Ceiling Mounted Laminar Flow (Planair) Systems
- OT Control Panels
- X-ray View Panels
- Operating Magnetic List Boards
- Storage Units
- Clean Room General Lights, OT Lights
- OT Floor (Antistatic Conductive Tiles)
- Hermetically Sealed Sliding Door (Manual / Automatic)
- Stainless Steel Clean Room Doors
- Bed Head Panels
- Perssure Relief Dampers
- Multi Movement Pendant Systems •Nurse Call Systems
- Automatic Surgical Scrub Stations
- Sealed Swing Doors
- Hatch Boxes
- ICUs Cubical Partition Curtains
- Medical Gas Pipeline Systems & Related Products



WALL & CEILING CONSTRUCTION

The wall and ceiling pnael can be made out of following material as per customer requirement, a) 1.6mm thick EGP steel panels backed by 12mm thick Gypsum, b) Stainless steel SS304 panels, c) High-pressure Laminate panels as per EN standard, d) PUF sandwiched panel.The room wall will have two independent surfaces with minimum opening in between.The external walls of the room will be constructed with solid bricks with cements Plastering.The inner surcaces walls will be constructed with 1.60 mm thick EGP steel panels backed by 12-mm gypsum board (India gypsum make) these panels will have flame resistance to Bs 1142 part 3.The inner surface walls will be fixed to the bricksall with Essential supports. There will be minimum possible cavity/gap in between the solid and steel walls. The total distance between the inside and outside surfaces of the operating room will be variable to suit the architect's layout, but will be sufficient for the flush mounting of equipnnents.2400mm X 2800mm, 2800mm X 2800mm, as pertheatre size.



AIR MANAGEMENT SYSTEM (PLENUM)

The laminarflow system shall comprise of the thick extruded aluminum profiles frame. The complete unit will have factory prepared fine sealing system along with proper test certificates. The plenum will be supplied at silt duty sealed in factory made packing. The Cornars of the plenum will be made of extruded aluminum sections which support the fire retardant FRP housings in such a manner that the air is passed only through the deep pleat HEPAfilter only. The laminar flow system will have SS perforated diffuser grill. The laminarflow system will have such design that it provides cleanliness of class 100.(≤ 100 particles/ft3) and bacteriological class B (≤ 20 cfu/m3).

Perfect tightness guaranteed by a seal between filters and holding structure enabling no by pass of HEPA Filters. Complete Filtration System will be factory assembled, tested and packed.

The absolute filters installed in the plenum will be suitable for applications for Laminarflow and clean rooms, these absolute filters will be deep pleat HEPA filters having extruded anodized aluminum,69 mm deep frame, and filter will provide flow uniformity exceeding+-

1 Protective grids	White epoxy painted micro drawn grid
2 Separators	Continuous thermo plastic chord
3 Sealant	Polyurethane
4 Gasket	One piece polyurethane
5 EN 1822 class	H14
6 MPPS average efficiency	> _ 99.995%
7 MPPS average efficiency	> . gg 975%
8 3 micron DOP efficiency	> _ gg 999%
9 Final pressure drop	600 p'a (maximum)
10 Maximum operating Temperature	60 degree centigrade
11 Maximum RH	90 percent
12 Efficiency Tests	Filters individually tested and certified



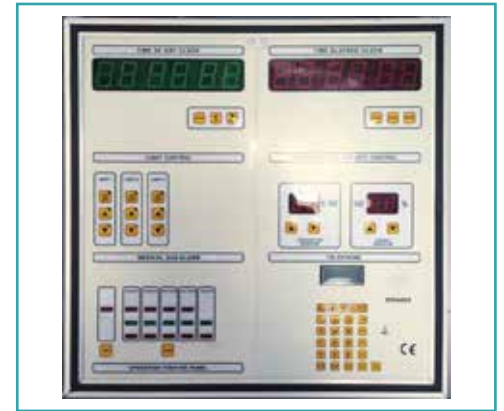
SURGEON CONTROL PANEL

The surgeon control panel should meet electrical safety codes for high & low voltage system, wired to the current I EE regulations. The surgeon's control panel should be designed to cope with changing technology & equipment In operating environments. Control panel will be user friendly & ease of operating & maintaining purpose. The panel should be "Membrane" type, configured room staff required. The fascia should be made superior quality UV resistance membrane with sterilization feature.

The Panel should contain 6 or 9 service tiles below:

1. Time Day Clock
2. Time Elapse Day Clock
3. General Lighting System
4. Medical Gas Alarm Panel
5. Hand Free Telephone set
6. Music control
7. Temperature & Humidity Display and or control

- Time days clock be digital type & clocks having high brightness characters.
- Temperature indicator should indicate the room temperature which should be connected to the local pressure switches of Air-Conditioning System.
- Indicators should be digital type & clock having high brightness character, not less than 30 mm in height.
- Central lighting system should incorporate all the necessary control of the lighting system I inside the theater.
- The medical gas alarm should indicate high, Normal & Low gas Pressure for each gas service present in the operating system & should have an audible buzzer with mute facility. Pressure sensors should be connected to MGPS for monitoring the pressure.
- A hand free set Telephone system should be incorporated in the panel with memory type card.



HERMETICALLY SEALED SLIDING DOORS

To maintain satirically and the correct air pressure the room, all doors into and out should be of the sliding, hermetically sealing type. The doors should meet following specifications. Meets international quality & safety requirements.

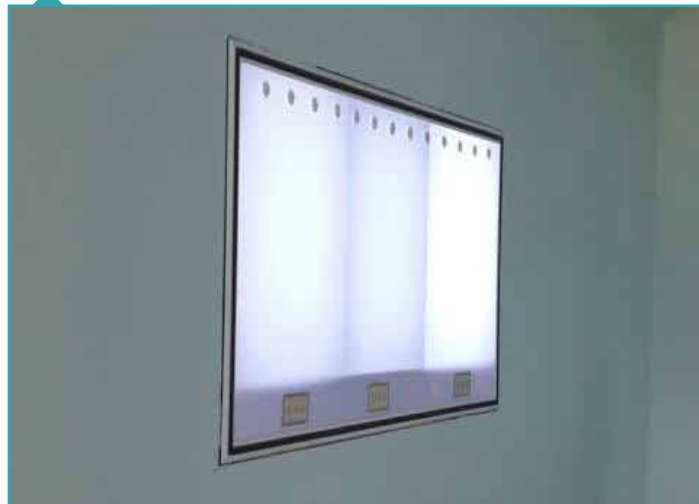
- Doors should be wired to the current IEE regulations & Bs7971 standard.
- Motor should be DC 24V 70W brush less DC motor.
- Noise level of movement should not be more then 60 decibel.
- controller should able microprocessor based and the be CE market.
- Power efficiency should be .95 (in AC 100V full load).
- The track should be made up of single piece extruded aluminum.
- Environment temperature should be - 200C to +550C.
- Starting time should be able to regulate from .5 second to 23 second & starting speed should be 600 mm persecond.
- Electrical safety codes for high & low voltage system.

Design should meet HTM 2020/2021 standards. The doorframe should be made of high quality anodize aluminum and the door panel shoulg be made of compact laminate that can withstand high abrasion. To ensure efficient sealing of the doors frames should br provided. They will consist of reinforced plasterboard panels faced with same laminate as the door should seal on all four edges in the closed position & should be surface installed type. The track of the door should be constructed with high quality door lock with aluminum extrusion, fixed firmly to the door in such a way they do not obstruct trolley movement through the door. The door frames should be edged with an aluminum extrusion & with concealed fixings that are adjustable during installation to ensure a 100% hermetic seal I achieved. Vision panels, 300mm X 300mm should be provided in the doors. The door controller should be sensing overload condition and in overload case the door will automatically stop & reverse the direction of travel. The controller should be capable of either being operated be elbow switches/foot switched, radar switch(touch less sensor). All doors should be able to be operated easily manually in the event of failure of the power supply of the automation unit.



X-RAY VIEW PANEL

Life Care Products provides a range of X-ray viewing screens (any size) meet the electrical safety codes for high and low voltage system. The theatre is to be equipped with a 2 plate X-ray viewing screen, incorporating high efficiency electronic ballasts, and electronic digital dimming control (101 % to 10 %) circuit to provide flicker free luminance for the film viewing purpose. It can be installed flushed with theatre wall for hygienic and ease of cleaning purpose or desktop model. The X-ray viewing screen is designed for the purpose of front access. Life Care Products X-ray viewing screens provide high levels of luminous density from 4000 to 5400 cd/sqm. Life Care Products range of X-ray viewing screens is ideally suited for general, surgical and dental using modern hospitals. The flush and wall mounted models are supplied with 2 meters of heat resistant cable, with plug, available in one, two, three, four, six and nine plate models. The glare free diffuser has spring loaded white clips to secure the X-ray.



HATCH BOX (PASS BOX)

A Hatch of 600mm x 600mm size will be provided in the Operation Theatre as specified in the scope of the work to remove waste materials from the Operation Theatre to Dirty linen Area just adjacent to Operation Theatre. Each Hatch will be equipped with two doors and the door will be operated electronically. The Hatch will be designed in such a way that only one door will be opened at one time. The UV light will be so installed that it is kept on while both the doors are closed, this UV light has to be automatically turned off in case of opening of either of the doors. There will be indicators on both sides of the OT so that the door open/close status can be monitored from both ends.



MAGNETIC BOARD

Operating List Board

One operating list board will be provided in each operating theater. It will be made of ceramic having Magnetic properties and will be flushed to the wall of the operating room. It can be any size as per requirement of.



OT FLOORING (ANTISTATIC CONDUCTIVE TILES/ROLLS)

A floor screed Should be provided, flat to within a tolerance of ± 3 mm over any 3 metre area. Onto this sub-floor, a self-leveling compound should be laid prior to laying of the floor finish. Copper grounding strips (0.05m thick, 50 mm width) should be laid flat on the floor in the conductive adhesive and connect to copper wire of grounding. The floor finish in the operating room should be 2mm Conductive PVC tiles, laid on semi-conductive adhesive base. The floor finish should terminate at the room perimeter passing over a concealed cove former and continuing up the wall for 100mm. All joints should be welded with electrodes of the same compatible material to provide a continuous sealed surface. The floor should have an electrical resistance of 2.5×10^6 to 10^6 Ohms, as per DIN 51953 ATM F-1450 or NFPA 99, B1 class of fire resistance and should meet UL standard 779. Fulfills product requirements as per EN 649. To maintain sterility and the correct air pressure in the room all doors into an OT should be of the sliding, hermetically sealing type. The doors should meet following specifications.



PRESSURE RELIEF DAMPER

- The cascade pressure stabilisers are a range of multi bladed units specifically designed to control room air pressures in critical areas such as Operation theatres etc.
- Each Stabiliser comprises of a carbon steel case & matching slip over ring.
- The carbon steel housing contains up to four Grade 304 stainless steel Blades, which pivot upon sealed for life bearing assemblies.
- Balancing should be carried out utilising a proven balance weight assembly. Adjustment can easily be carried out on site should the need arise. Structural steel frames All structural steel sections will be of Grade 43 to BS 4360 or equivalent Indian Standard.
- The structural frames for the operating theatre are to be designed taking into account all fixed equipment to be installed in the Modular OT.
- The theatre structure should support all equipment installed in the Modular OT, such as the operating lamp etc, and should be vibration free and rigid.
- The theatre structure should also be capable of supporting other equipment to be installed in the same Modular OT in future, with total loading not more than twice that of all the equipment to be installed in the OT as mentioned in this specification. Welded sections in accordance with BS 5135.



VIEW WINDOWS WITH BLINDS

The view window of specified size shall be providing consisting of: Double insulated fixed glazing with not less than 5mm thick toughened glass. Window frame shall be powered coated Aluminum of approved shape flush mounted with wall paneling. Motorized horizontal Venetian Blinds of powder coated aluminum strips of vista level of equivalent of approved shade including necessary accessories. The motor shall be of reputed brand approved by Engineer-in-charge. The Venetian blinds should be motorized for 90 degree rotational.



PERIPHERAL LIGHTS (LED/CFL)



STORAGE UNIT

The storage unit can be made with 1.50 mm thick EGP Zinc coated steel panels, Stainless Steel panels, High pressure Laminate panels. The storage unit will be divided in 2 equal parts and each part will have individual glass doors with high quality locking system. Each part will be provide with glass racks.



SURGICAL SCRUB SINK

- Compact Surgical scrub Sink should be designed for use in Operation theatre complex providing surgeons with a convenient sink for pre-op scrub up.
- Each Fixture should be fabricated from heavy gauge type 304 stainless steel & should be seamless welded construction polished to a satin finish.
- The scrub sink should be provided with a front access panel, which should be easily removed for access to the water control valve, waste connections, stoppers & strainers.
- Hands free Operation includes infrared sensor with built-in range of adjustment.
- Thermostatic Mixing Valve control should be located behind the access panel & maintain constant water temperature.
- User defined settings of 1,3,5 & 10 Min. Should be available. This timing can be changed to meet individual application requirement. Provided with elbow action taps, infrared sensor thermostatic control with fail-safe temperature controls.
- All units should have radiused anti splash fronts. Knee/ foot operated switch should be offered as an option.



GLASS PANEL MODULAR OT

