

Pengenalan Kepada Operationg Table

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Rekabentuk Kesihatan 1



Pengenalan Kepada Operationg Table

- Pengenalan
- Kod Amalan
- Fungsi
- Jenis OT Table Dan Keperluan Bagi OT Table
- Keperluan dan susunatur bilik ot dan table
- Spesifikasi JKR
- Kaedah kelulusan bahan
- T&C
- DLP

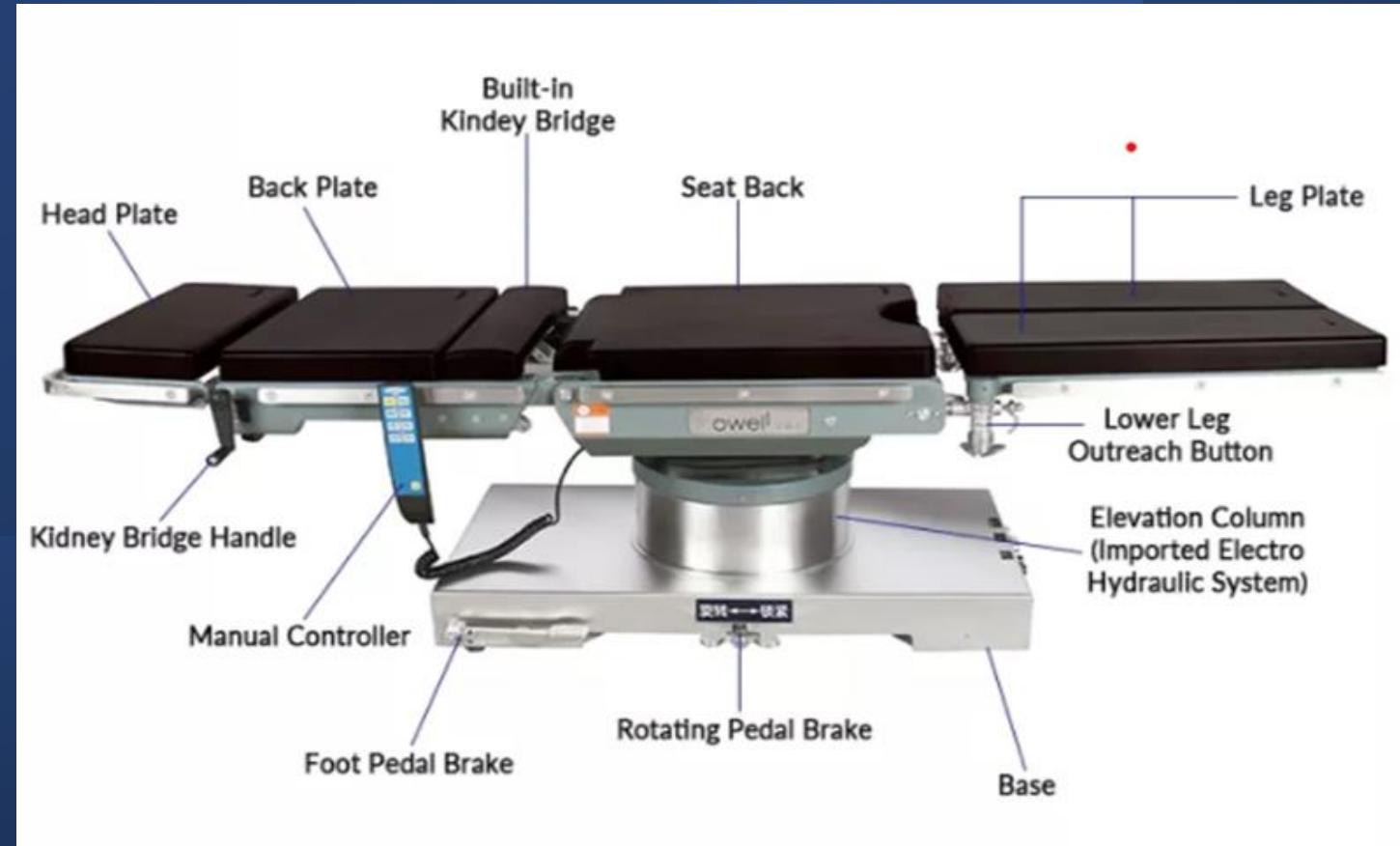


Operating Table

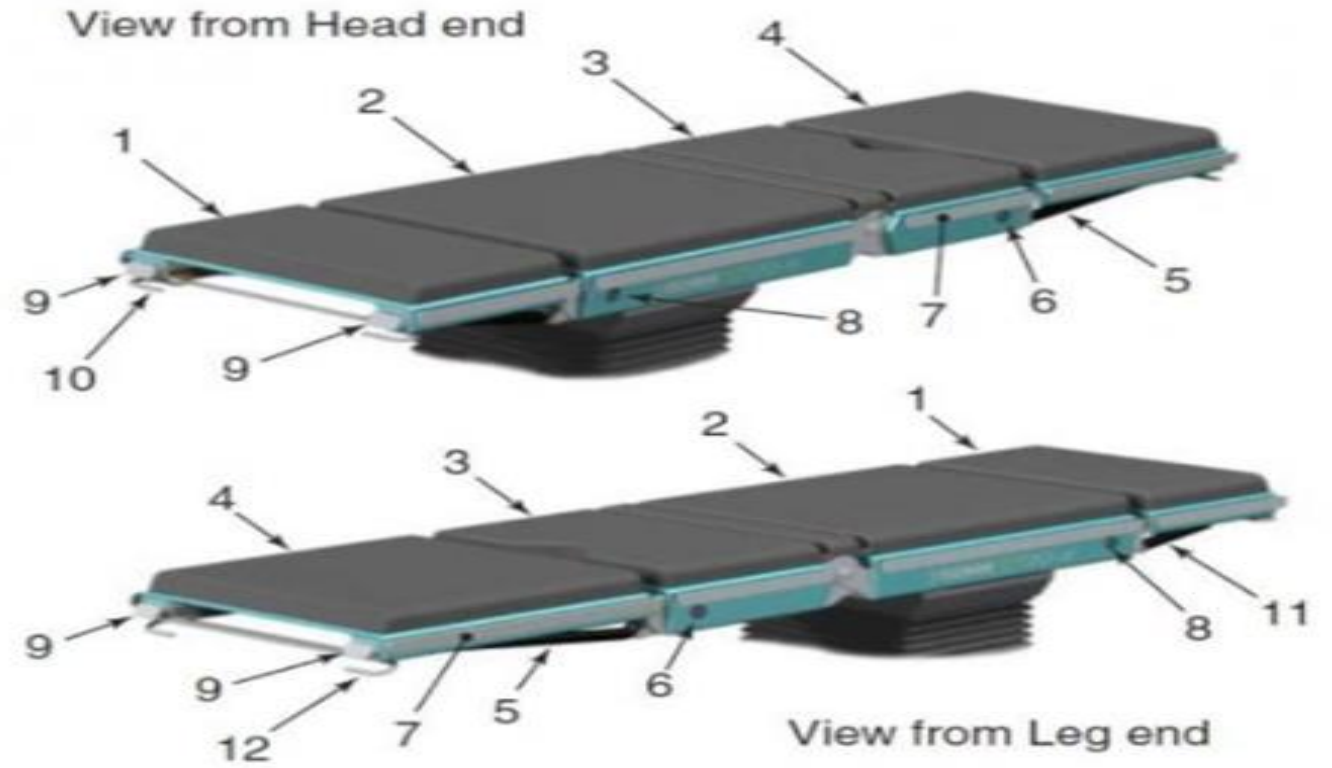
- An operating table is a table on which a patient lies during a surgical procedure.
- Sometimes known as a surgical table or operation table, operating tables are typically used within an operating room or surgical suite of a hospital, ambulatory surgery center, or other healthcare facilities where surgeries are performed.
- Operating tables may be either stationary or mobile to move room to room.
- Operating tables are used in various types of procedures such as cardiothoracic, orthopedic, bariatric, robotic, urologic, and more.



Operating Table



Operating Table



- 1 Head section
- 2 Long trunk section
- 3 Short trunk section
- 4 Leg section
- 5 Leg section gas spring
- 6 Short trunk section release button
- 7 Accessory side rail (can also be used to stow handset*)
- 8 Long trunk section release button
- 9 Head or leg section end block (use to stow UK/EURO handset)
- 10 Head section release bar
- 11 Head section gas spring
- 12 Leg section release bar

* Clip on handset must match side rail type, see accessory section 4.8

Fig. 2.1 Identification of the main parts of the T20 Series table top.

Operating Table

Type of Operating Table

- General Surgical Table
- Specialty Surgical Table
 - Orthopedic Surgical Table
 - Ophthalmology Surgical Table
 - Ear Nose & Throat Tables
 - Obstetrics & Gynaecology Table
 - Trauma/Emergency Table

Type of Operating Table

- General Surgical Table
 - General surgical tables can be adjusted for height and length, can be tilted to either side, and tilted horizontally.
 - General surgery tables are the ubiquitous feature of almost every operating suite.
 - They provide clinicians with a steady operating surface, and are versatile enough to be used in a wide range of surgical procedures.
 - Today's general surgery tables usually feature electronic movements including height adjustment, Trendelenburg, lateral tilt, and slide, but some models feature basic manual operation and limited feature

General Surgical Table

Accessibility – Doctors need the ability to adjust the height in order to gain access to the patient comfortably. Angle adjustment capabilities can also help the doctor reach the surgical area more comfortably and safely.

Stability – Positioning placement and precision are critical to delivering the right dosage of anesthesia. Therefore the surgical table must be steady and cannot sway or move if the patient's shift positions.

Imaging Support – Surgeons are increasingly using minimally invasive laparoscopic procedures, making imaging support more important. A general surgical table should include imaging support features.

Support for larger patients – One of the realities of 21st-century surgery is an increased rate of obese patients. Quality surgical care shouldn't be limited by the maximum weight allowances of surgical tables. The standard table should, at minimum, be able to support a patient weighing 300 kg

General Operating Table Requirement

The table is electromechanical or electro-hydraulic power type, fully mobile fully electrically operated and back up by battery

Shall be water proof type

It required to ensure eco friendly, smooth and efficient movement, and accurate positioning by one touch button.

Shall be able to load X-Ray cassette through Built In at the table.

It can be easily maneuver by hand touch keypad by fingers tip operated or using remote control/hand key pad which come with support system at the table railing(easy to reach)

The frame of the table is using only stainless steel –framework, sidebar, clamp, and insertation part

The base of table must ensure stability of the operating table. It is made in stainless steel and mounted on castor wheels provided with locking system and wheels position selector and also antistatic

Operating Table Requirement

TABLE TOP is ready for the insertion of x-rays holder on all its length.(X-Ray translucent)

MATTRESSES that cover the table top removable for cleaning, antidecubitus and antistatic, independently removable, x-rays translucent ,elastic, Latex-free,hook &look free

Battery powered, with facility for connection to main electricity with immediate use. Battery lasting about minimum 8 hours . Battery status indication (main and back-up battery) via handset.

Able to carry patient weight capacity is 300kg

Head section/leg section can be removal mechanically

Basic Operating Table Position

Supine: This position is the natural position of the body at rest, making it the most common posture for surgery. Common complications associated with the supine position are backaches and pressure-point reactions.

Trendelenburg: The Trendelenburg position is a variation of the supine position. The upper torso is lowered and the feet raised, allowing for optimal visualization of the pelvic organs during laparoscopy and lower abdominal procedures.

Reverse Trendelenburg: Commonly known as the head-up and feet-down position, the reverse Trendelenburg is often used in head and neck procedures.

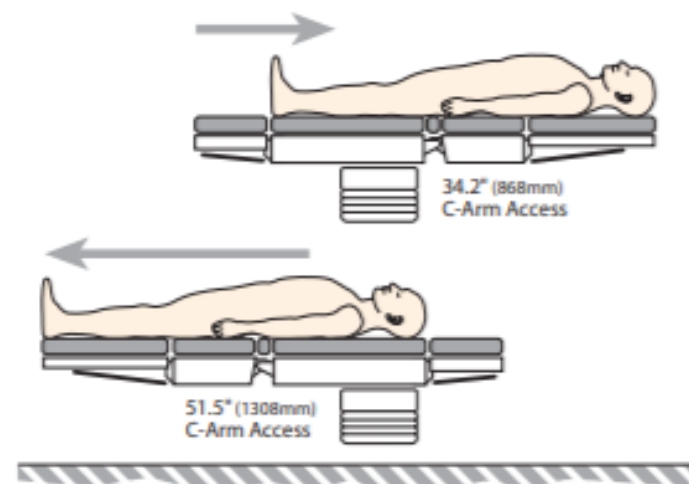
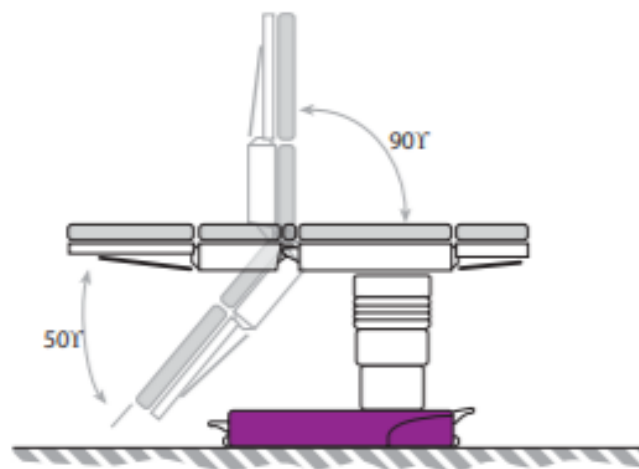
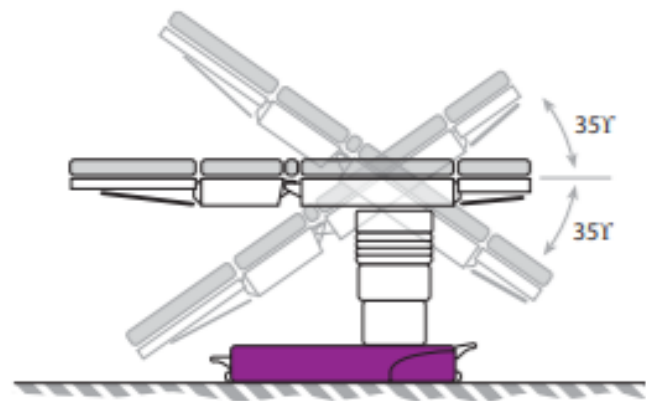
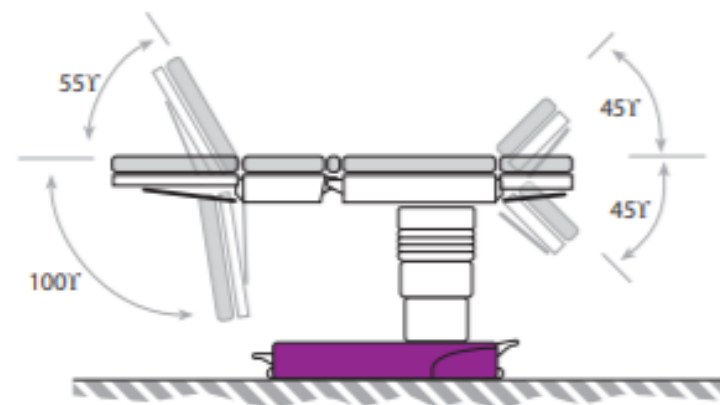
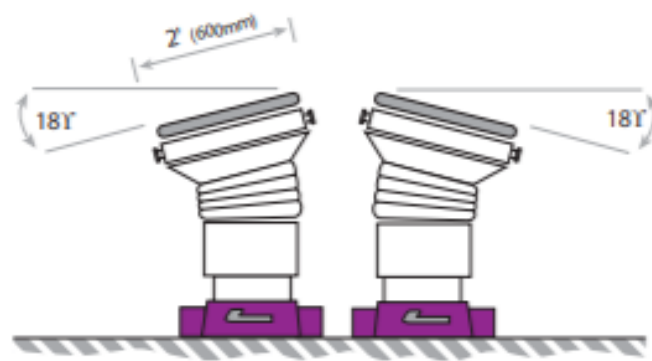
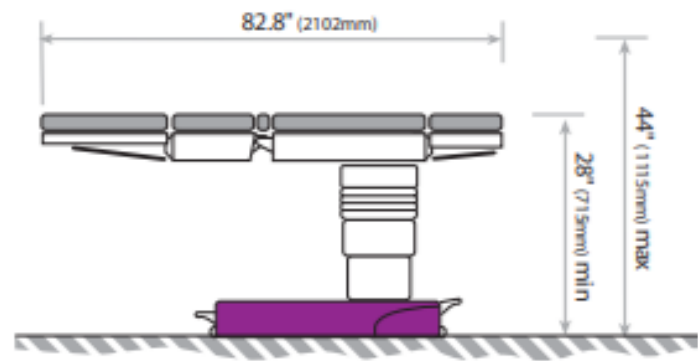
Prone: In this position, the patient lies flat on their stomach and their head is turned to the side. This position is most commonly used for cervical spine, back, and rectal area procedures.

Basic Operating Table Position

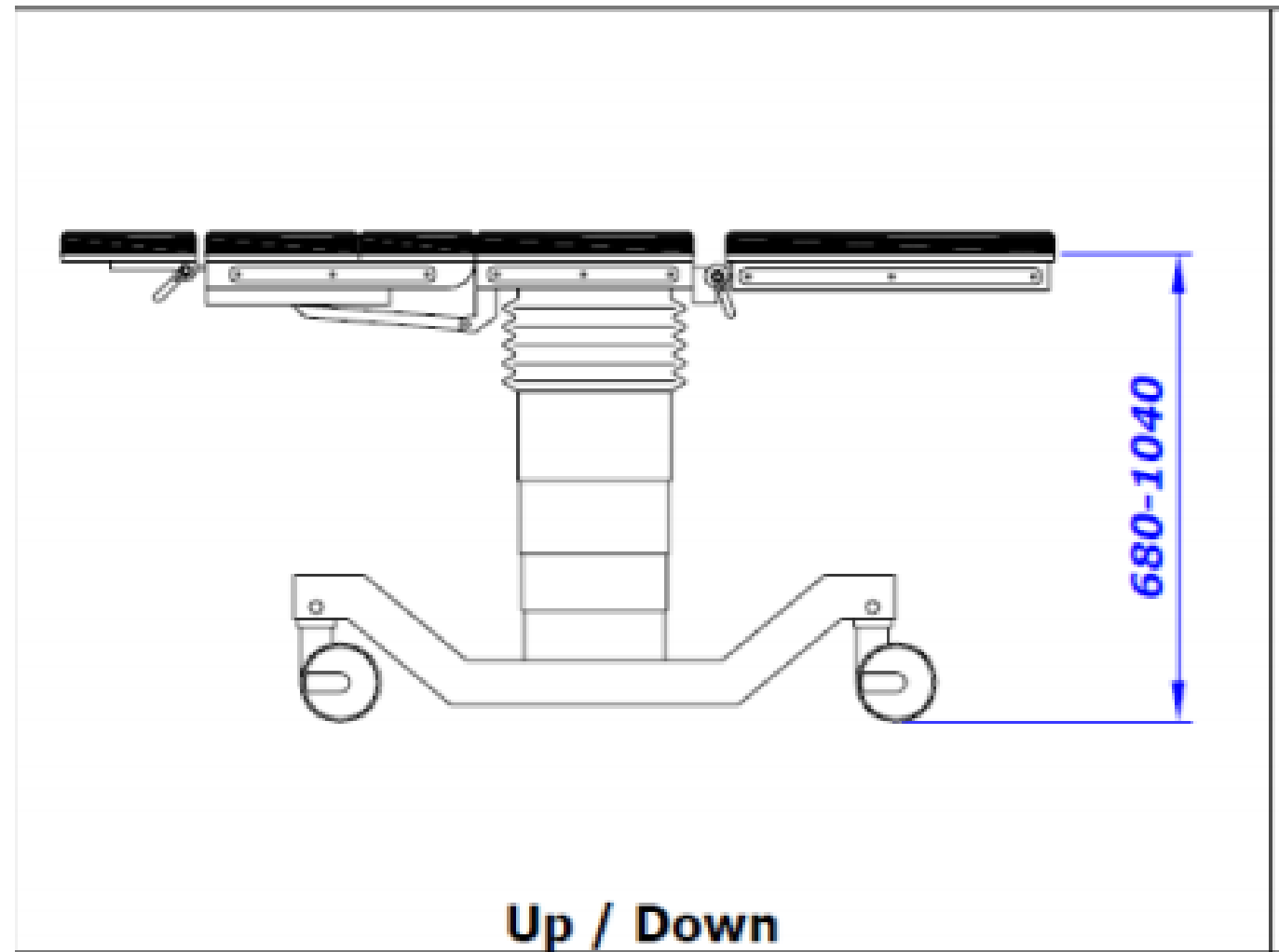
Lithotomy: While in the lithotomy position, the patient is in supine position and their legs are raised and abducted. Stirrups are needed for this position.

Sitting: Also known as Fowler's position, the patient in this position is sitting at a 90 degree angle. The knees are slightly flexed and the feet are placed against a padded foot board. This position is ideal for neurosurgery, facial operations, and some shoulder surgeries.

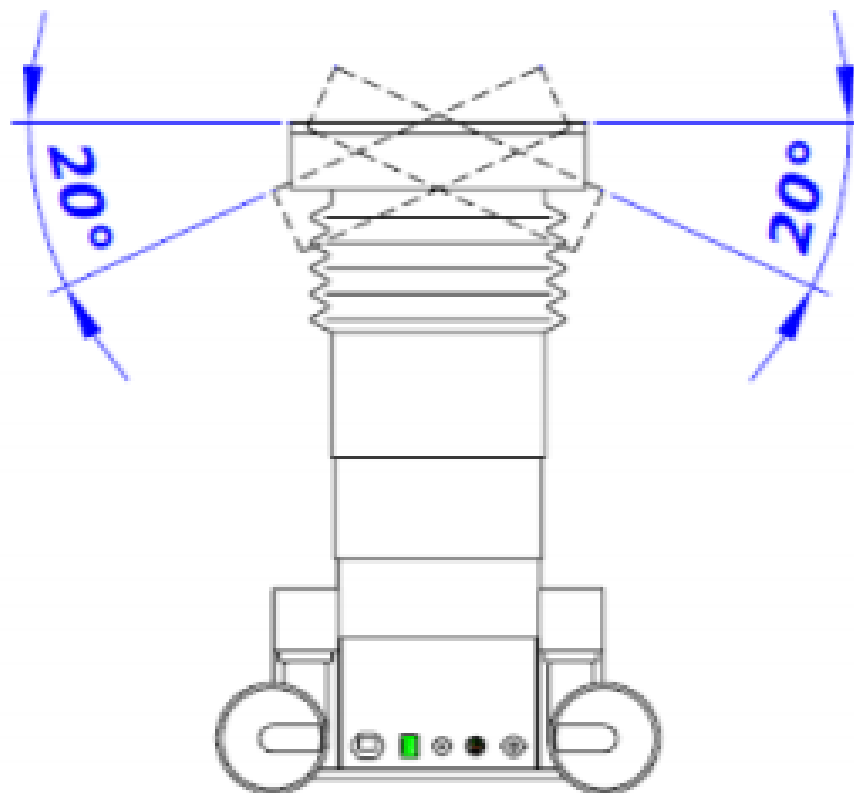
Lateral: The lateral position places the patient on the non-operative side so that surgery can be performed on the hip, chest, or kidney.



Up and
down the
Table

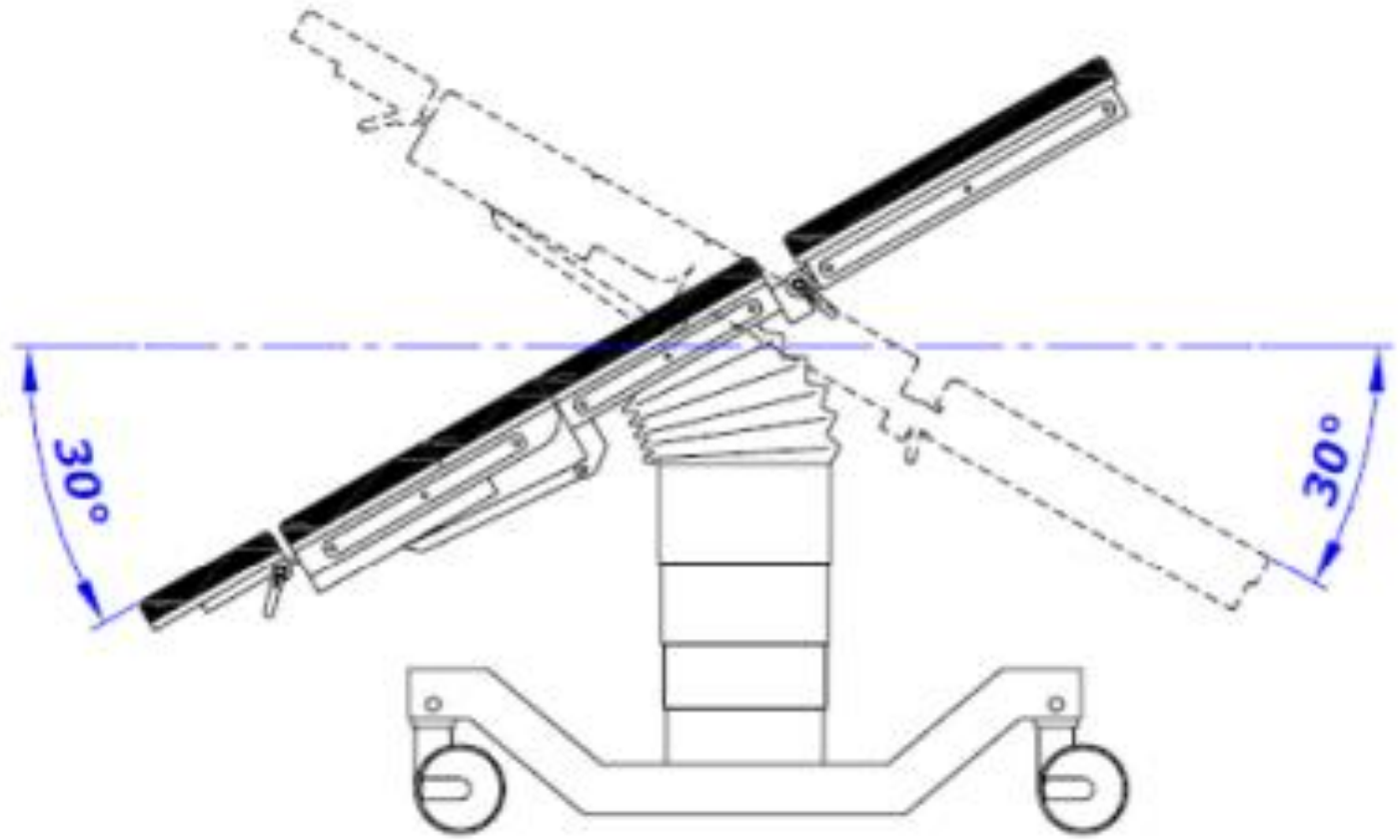


Lateral
Tilting



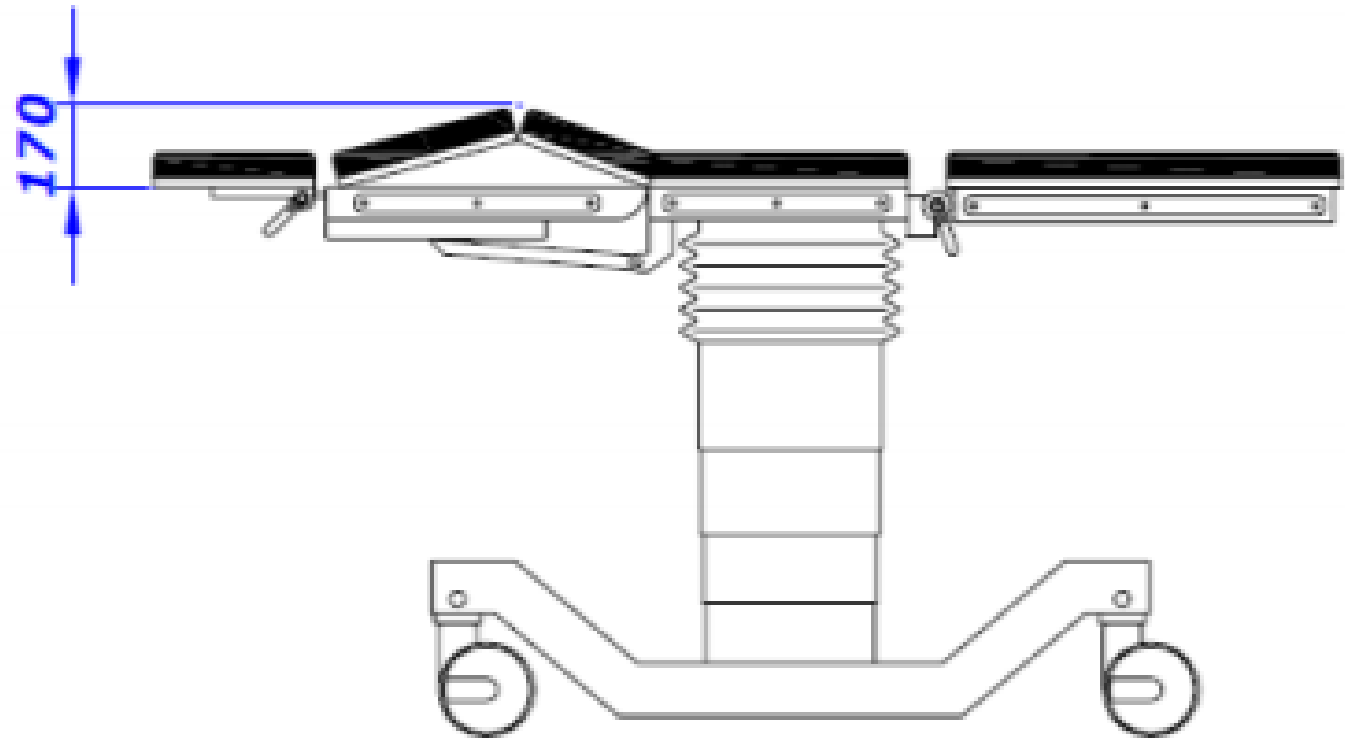
Lateral Tilting

Trendelenburg
/ Reverse
Trendelenburg



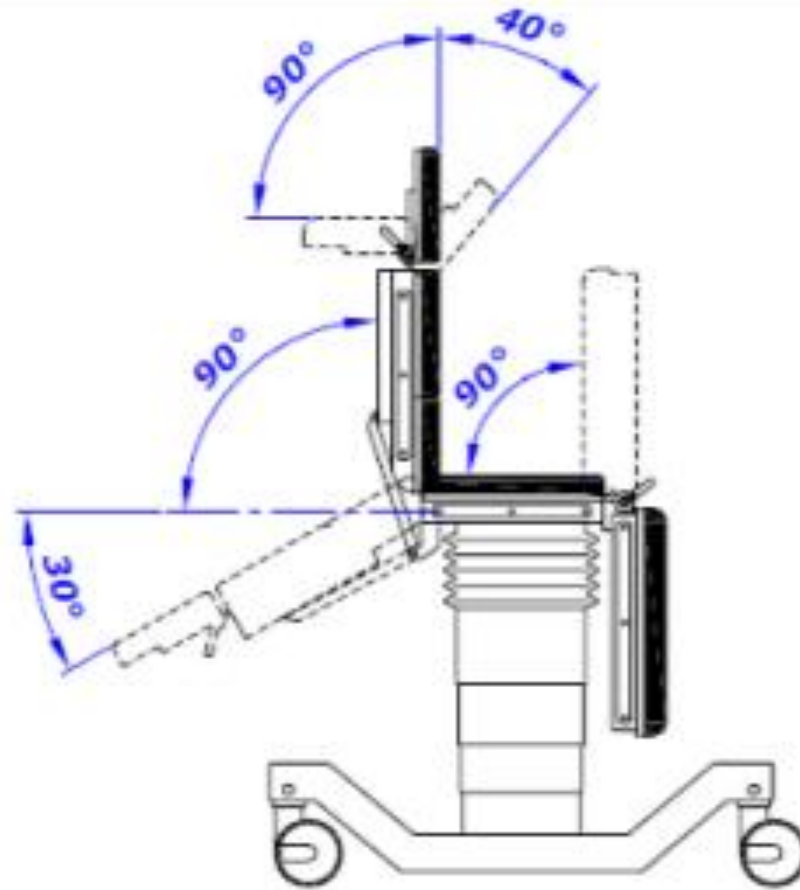
Trendelenburg Reverse trendelenburg

Thorax
Position



Thorax opening – OPTIONAL

Sitting Position



Application Position of Table



Femoro-Popliteal



Cardiovascular



Cystoscopy / Urology / GYN

Application Position of Table



Endourology



Ophthalmic/ENT



Bariatric/Split Leg

Application Position of Table



Lateral Neurosurgery



Kneeling Neurosurgery



Nisson Fundoplication

Application Position of Table



Total Hip



Prone Neurosurgery



Spinal Neurosurgery

Application Position of Table



Gall Bladder and Thoracic



Endovascular



Gynecology



Why they have difference type of position

- To maintain airways and to prevent constriction or pressure on chest cavity
- To maintain blood circulation
- To prevent nerve damage
- To provide adequate space for surgeon for operative exercise
- Patient comfort
- Safety of patient

Impact of Incorrect OT Table Position During Procedure

- **The incorrect of positioning of patient during procedure will cause and give bad result which insignificant injuries and can cause any lawsuits case success.**

JKR
SPESIFICATIJKR
SPESIFICATION
FOR OT TABLEON
FOR OT TABLE

A

Mobile with Manual Hydraulic Foot
Pump Control

B

Mobile with Electrically Remote Control

MINIMUM REQUIREMENT OF OT TABLE:

ITEM	DESCRIPTION	TECHNICAL COMPLIANCE
a	Height Adjustment	
	Height	720 mm (including mattress & x-ray tunnel) 550 mm for Ophthalmology Surgery
	Maximum Height	1120 m
b	Length	2100 mm
c	Width	600 mm
d	Trendelenburg position	35 degree
e	Reverse Trendelenburg	35 degree
f	Lateral tilt (left & right)	18 degree
g	Break (extension) position	230 degree
h	Break (flexion) position	90 degree
i	Chair position	90 degree
j	Traverse (slide)	Both sides 500 mm i. Maximum Traverse Cranially 250 mm ii. Maximum Traverse Caudally 250 mm
k	Leg section adjustment	Up 55 degree Down 100 degree
L	Head section	Up 55 degree Down 45 degree
m	Patient Weight	300 kg Static

JKR SPECIFICATION FOR OT TABLE

1. Type A (Mobile with Manual Hydraulic Foot Pump Control)
 - Movements. Adjustable positions (Minimum requirements):
 - Trendelenburg position >40
 - Reverse Trendelenburg >45
 - Height Adjustment (without mattress) Minimum height 1000mm
 - Lateral tilt ± 15
 - Head section ± 45
 - Table top rotation about central axis = 360 degrees
 - Leg section adjustment = + 10 deg. to -100 deg.

JKR SPESIFICATION FOR OT TABLE (Mobile with Electrically Remote Control)

Mechanism:

- i. The table shall be fully mobile and is electro hydraulically operated and battery powered.
- ii. All movement and adjustment is fully powered i.e. electrically controlled via a handset controller.
- iii. The movement and adjustment includes trendelenburg, lateral tilt, break and height, in addition to brake operation and wheel configurations.

JKR SPESIFICATION FOR OT TABLE (Mobile with Electrically Remote Control)

Construction

The table top shall be four-section with an interchangeable and adjustable head and leg section.

Side Bars shall be of anti- dirt type.

JKR SPECIFICATION FOR OT TABLE (Mobile with Electrically Remote Control)

Materials

- i) Base, framework, side bars, clamps and insertion parts shall be of stainless steel.
- ii) Castors shall be heavy duty and electrically conductive.
- iii) Mattresses and Pads shall be conductive and of disinfectant resistant material. The mattress shall not be less than 50mm thick.
- iv) The whole table shall be water-proof.
- v) The oil pumps and all parts of the hydraulic system shall be leaked proof.

JKR SPECIFICATION FOR OT TABLE (Mobile with Electrically Remote Control)

Power Supplies

- i. The table shall be powered via sealed batteries providing 24 volt output.
- ii. A built in battery charger unit complete with charger cable shall be provided.
- iii. The batteries with charger unit and charger cable shall be located at table base.
- iv. There shall also be a socket at the table base for the connection of and external battery charger.

JKR SPECIFICATION FOR OT TABLE: Radiography requirements

The table shall be suitable for use with a fixed or mobile X-Ray equipment as well as a C-arm Image Intensifier. ii) The complete table-top and pads shall be radio-translucent for the full length. iii) There shall be suitable access for standard X-Ray cassettes to be provided which runs the full length of the table top.

**BASIC
ACCESORIES**

**ADDITIONAL
ACCESORIES**

**OT TABLE
ACCESORIES**

The OT Table shall be equipped with accessories required by specific discipline of surgery such as General(GEN), Trauma/Emergency (TRAUMA), ORTHO, ENT, OPHTHAL and O&G. The quantity of accessories is by unit basis.

BIL	DESCRIPTION	QTY	DISCIPLINE OF SURGERY					
			GEN	TRAUMA	ORTHO	ENT	OPHTHAL	O&G
	ACCESSORIES							
1	Drop Handle, Direct-On Clamp	4	✓	✓	✓	✓	✓	✓
2	Anti-Drift Rotary Clamp	2	✓	✓	✓	✓	✓	✓
3	Narrow Arm Table	2	✓	✓	✓	✓	✓	✓
4	Arm Support Perspex	2	✓	✓	✓	✓	✓	✓
5	Anaesthetic Screen	1	✓	✓	✓	✓	✓	✓
6	Heel Support Gel Pad	1	✓	✓	✓	✓	✓	✓
7	Patients Restraint Strap	1	✓	✓	✓	✓	✓	✓
8	Handset Cover	1	✓	✓	✓	✓	✓	✓
9	Forearm Support Kit	2	✓					
10	Rectangular Lateral Support Kit	1	✓					
11	Circular Lateral Support Kit	2	✓					
12	Knee Stabiliser	1		✓	✓			
13	Knee Crutch	1		✓	✓			
14	Closed Headring, Adult	1		✓	✓			
15	Closed Headring, Adoles	1		✓	✓			
16	Trolley	1		✓	✓			
17	Prone Headrest, Adult	1				✓		
18	Prone Headrest, Adoles	1				✓		
19	Surgeon Stool General	2	✓	✓	✓	✓	✓	✓

Technical Specification Adherence/ Material Approval

Event for selection of brand that been agreed in the contract . Normally in D&B projects contractor will offer 3 brands.

Coventional 1 brand only in the contract

This pre equipment procurement process before contractor perform equipment procument.

Technical Specification Adherence (TSA)

Event for selection of brand that been agreed in the contract . Normally in D&B projects contractor will offer 3 brands.

This pre equipment procurement process before equipment procurement.

TSA shall be done before progress up to 60% which to considering planning of procurement , purchasing, delivery and installation at the right time on work program. – PD role and responsibilities.

Technical Specification Adherence

	TSA (D&B)	Material Approval (Conventional)
1	Contractor will propose formatting for TSA documentation for PD approval	Using Borang Kelulusan Bahan
2	Review and approval by committee	Review by WPP E then the approval document can be submit/presented to KKM perancang one copy for reference or comment to WPP E action.
3	TSA committee will be KKM perancang, HOD, clinician, medical staff, technical staff	WPP E can do evaluation for material approval based on contract document
4	Can be done by interaction, product presentation or factory visit for TSA section between main contractor, supplier, PD rep , KKM Perancang, HOD, end user.	WPP also can do interaction before make approval for material submission.
5	Manufacturer's catalogues and drawing giving detailed information on the general arrangement of the equipment and other useful details shall be submitted together	Manufacturer's catalogues and drawing giving detailed information on the general arrangement of the equipment and other useful details shall be submitted together

Technical Specification Adherence

- By working on work program, the contractor shall planning an activities for approval for equipment .
 - Propose the formatting for submission documentation of brand
 - Ready the documentation
 - Setting up committee for that TSA,
 - Event scheduling for committee meeting complete with the demostation or preparing the full presentation to convince the committee.
 - Minute of the decision of meeting
 - Contactor is allowed to make procurement and purchasing the item after complete TSA minute had been made officially.

Testing And Commisioning

Testing

Testing procedures

- Shall be regularly tested and calibrated by the manufacturers or accredited calibration laboratories for their functionality and accuracy.
- The instruments and their Test and Calibration Reports or Certificates shall be submitted to S.O or S.O's Representative for verification two (2) weeks before testing of the installation being carried out.
- Functional test, Electrical Safety Test

Checking and Counting

Inventory Checking and Counting

Training

User Training

- Shall be arranged and conducted for all system and equipment.
- The medical and technical personnel shall be trained on the correct operation of the equipment that include the mechanical and electrical aspects as well as quality assurance of the machine.

OPERATION AND MANUAL DOCUMENTATION

- a. Manufacturer's Catalogues And As Built Drawings
- b. Manufacturer's Recommendation PPM
- c. Guarantee & Warranty
- d. Certificate of Testing and Commissioning
- e. Spare Part List of Recommendation
- f. Supplier Contact No.
- g. All Testing Result



DEFECT LIABILITY PERIOD:

SERVICE AND MAINTENANCE

- During the DLP, the contractor shall be responsible for the service and maintenance work of the complete installation.
- All labour, material, tools and parts necessary to rectify the defect due to manufacturing and installation faults shall be supplied and executed at the Contractor's cost.
- The service and maintenance to be carried out, defects to be rectified and making good shall include but not limited to the following:
 - ❖ Repairs and replacement of all equipment and accessories that become faulty due to manufacturing and installation defects whether it is under the manufacturer's warranty or not.
 - ❖ Replacement and making good of all wiring and accessories.
 - ❖ Making good any damage to wall, ceiling, conduit, cables, trunking, etc. which had not been properly made good arising out of contractor's work.
 - ❖ All other works deemed as necessary by the S.O or S.O's Representative