

2-2 DESCRIPTION OF EQUIPMENT

General

- (1) Spare parts for two years' use are included in the price of the products.
- (2) If necessary, installation charge is included under the following conditions:

°The transportation of the products from loading port to the place in the hospital where the products are installed is made by purchaser.

°The labor for assisting unpacking, etc. is prepared by purchaser.

°The facilities in the room of the hospital, such as electricity, water supply piping, steam supply piping, finish wall, etc. are prepared by purchaser in accordance with the instructions of seller, before installation starts.

The connection of pipes, set-up, operation test, etc. is made by engineer of seller.

°The travelling expenses of engineers are not included.

Note, : The domestic transportation and staying charge of engineers is to be included in local currency.

OPERATING THEATER

1. Universal Operating Table (L)

Overall Dimensions: 45 W × 180 L cm

Height: Max. 95 cm, Min. 71 cm

Hydraulic Elevating Mechanism

Table Top: Consists of a divided trunk section, a head section and a leg section. Die cast finished in baked melamine.

Lateral Tilt: 20° right and left

Trendelenburg: 30°

Reversed Trendelenburg: 40°

Back Section Tilt: 85° upward, 45° downward

Head Section Tilt: 90° upward, 80° downward

Table Base: Provided with an efficient brake securely immobilizes the table.

Accessories: Leg Support, Shoulder Support, Arm Table, Curtain Hanger, Body Support, Kidney Elevator, Pelvis Rest, Mattress

Net Weight: approx. 240 kgs.

Gross Weight: approx. 370 kgs.

2. Universal Operating Table (S)

Oil Hydraulic Elevating Mechanism

Height: 100 cm (max.) ~ 75 cm (Mini.)

Total Width: 45 cm

Total Length: 180 cm

Trendelenburg: Max. 30°

Reversed Trendelenburg: 30°

Accessories: Leg Support, Shoulder Support, Arm Table, Curtain Hanger,
Kidney Elevator, Instrument Tray, Head Section, Mattress

Net Weight: approx. 210 kgs.

Gross Weight: approx. 320 kgs.

3. Major Operating Light

Lamp Head Diameter: 100 cm

Bulbs: 6 pcs. Halogen lamp

Max. Intensity: 100,000 lux.

Min. Field: 25 ϕ cm

Intensity adjustment: 6 steps

(Suitable for installation in room with ceiling height of around 4.5 m)

Power Source: AC 200/220V 1 ϕ 50Hz 535W

Net Weight: approx. 130 kgs.

Gross Weight: approx. 240 kgs.

4. Mobile Operating Light (L)

Lamp Head Diameter: 50 cm ϕ

Bulbs: 24V 25W \times 4 pcs.

Intensity: 20,000 lux.

Field: 15 - 24 cm

Power Source: AC 200/220V 1 ϕ 50Hz 110W

Net Weight: approx. 66 kgs.

Gross Weight: approx. 118 kgs.

with Emergency Battery Box

Net Weight: approx. 70 kgs.

Gross Weight: approx. 120 kgs.

5. Mobile Operating Light (S)

Lamp Head Diameter: 32 cm

Bulbs: 150 W × 1 pce.

Intensity: 10,000 lux.

Power Source: AC 200/220V 1ϕ 50Hz 150W

Net Weight: approx. 10.5 kgs.

Gross Weight: approx. 19 kgs.

6. Electro Surgical Unit

Outer Dimensions: 51 W × 38 D × 88 H cm

Frequency: Courtesy, 1.8 - 2.2 MHz

Coagulation, 4.4 - 4.7 MHz

Output: Max. 300W

Top Operation Panel: Acryl resin

Output Adjustment: Coarse adjustment, by turning lever-switch

Fine adjustment, by lever switch

Provided with explosion-proof device,

Flow meter for automatic adjustment of gas pressure

500 lit. gas cylinder

Power Source: AC 200/220V 1ϕ 50Hz 1.2KW

Net Weight: approx. 52 kgs.

Gross Weight: approx. 90 kgs.

7. Electric Suction Unit (L)

Outer Dimensions: 45 W × 32 D × 87.5 H cm

Pressure Range: Max. Hg 650mm

Pump: Oil immersion type, rotary pump

Suction Bottle: 5,000cc capacity, graduated, provided with a float valve, with specially fabricated stepped rubber stopper, and 500cc capacity bottle.

Instrument Panel: 60 ϕ mm vacuum gauge, Power switch, Indicator lamp,
Pressure adjusting knob

Provided with a foot switch, castors, suction tubes

Power Source: AC 200/220V 1 ϕ 50Hz 200W

Net Weight: approx. 45 kgs.

Gross Weight: approx. 85 kgs.

8. Electric Suction Unit (S)

Outer Dimensions: 17.5 \times 37 \times 33 cm

Vacuum: 600 mmHg

Pump: oil-free diaphragm compressor

Motor: 35W

Suction Bottle: 2.5 lit.

Electricity: 35W

Net Weight: approx. 8 kgs.

Gross Weight: approx. 15 kgs.

9. Ultrasonic Cleaner for surgeon

Outer Dimensions: 600 W \times 550 D \times 900 H mm

Electric Consumption: 1.5 KW

Net Weight: approx. 50 kgs.

Gross Weight: approx. 90 kgs.

10. Dressing Drum Stand

For one 18 ϕ cm drum

Stainless steel, with foot pedal,

Mounted on easy rolling castors

11. Dressing Drum Stand

For one 27 ϕ cm drum

Stainless steel, with foot pedal

Mounted on easy rolling castors

12. Instrument Tray Stand

Stainless steel, adjustable in height

With 50 x 35 cm tray, two ball bearing castor

13. Instrument Tray Stand

Stainless steel, with two instrument tray

Mounted on easy rolling castors

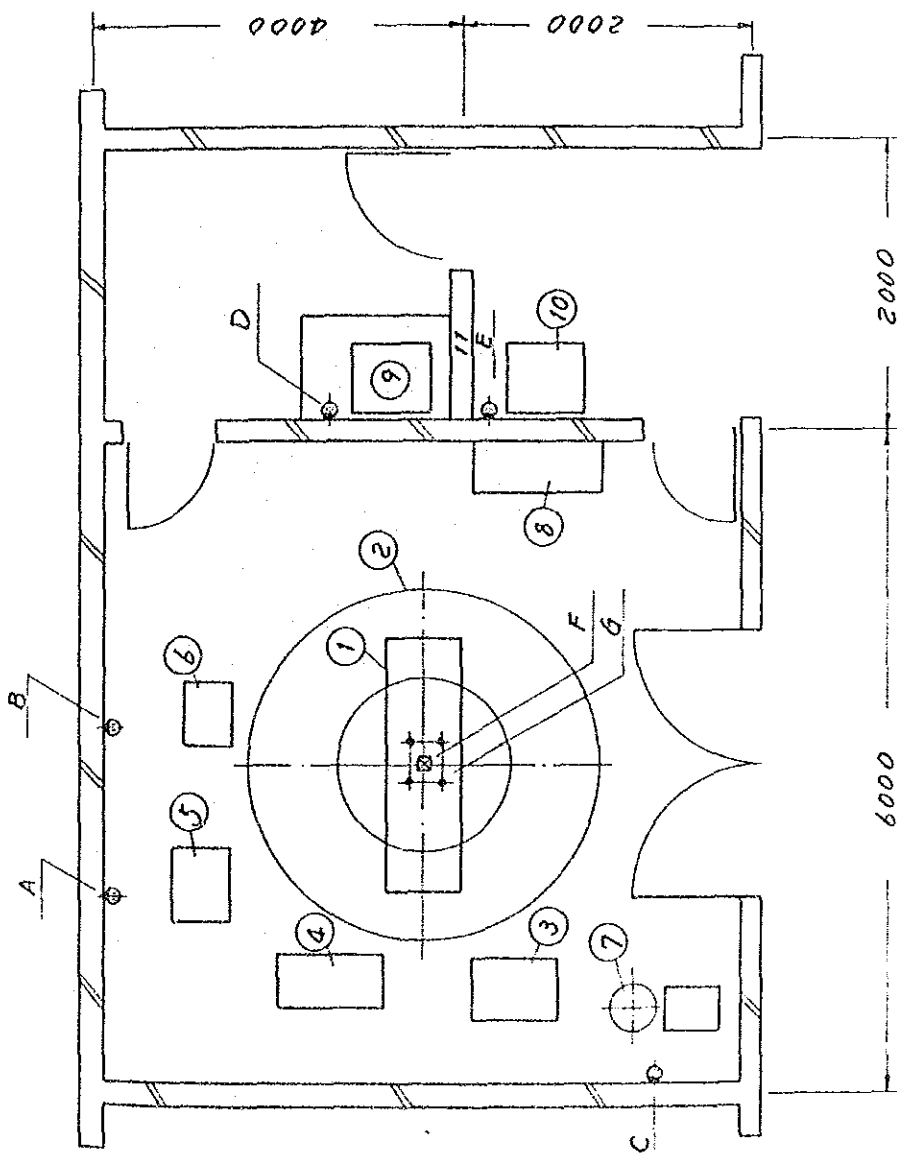
14. Irrigator Stand

Stand (Mobile)

Material, Stainless steel, with double hooks

Mounted on swivel casters adjustable from 1,260 mm to 2,100 mm
in height.

1. Operating Table
2. Operating Light
3. Anesthesia Apparatus
4. Anesthetic Instrument Table
5. Electro Surgical Unit
6. Suction Unit
7. Stand Light
8. Instrument Cabinet
9. Table Type High Speed Sterilizer
10. Ultrasonic Cleaner for Surgeon



Required Facilities

2. Operating Light

F. A.C. 200/220V, 0.7KW

G. Anchor Bolt, W 3/4" x 4

5. Electro Surgical Unit

A. A.C. 200/220V, 1.2KW

6. Suction Unit

B. A.C. 200/220V, 0.2KW

7. Stand Light

C. A.C. 200/220V, 0.2KW

9. Table Type High Speed Sterilizer

D. A.C. 200/220V, 1KW

10. Ultrasonic Cleaner for Surgeon

E. A.C. 200/220V, 1.5KW

ANESTHESIA

1. ANESTHETIC Apparatus

- Specifications -

1. Dimensions: 650 W × 650 D × 1400 H
2. Fluothane Vaporizer: ×1
3. Absorber: 2000cc × 1
4. Copper Kettle: ×1
5. Mercury Sphygmomanometer: ×1
6. Flow Meter:

O₂

N₂O

C₃H₆

0 in a copper kettle

each High-long Rotameters (290 m/m)

7. Cabinet

- small O₂ bomb adapter: ×2
- small N₂O bomb adapter: ×1
- small C₃H₆ bomb adapter: ×1
- drawers: ×3
- table : ×1

8. Caster wheel size: 100 ϕ m/m

2. ANESTHETIC Apparatus

- Specifications -

1. Dimensions: 480 W × 530 D × 1270 H
2. Fluothane Vaporizer: ×1
3. Absorber: 2000cc × 1
4. Mercury Sphygmomanometer: ×1

5. Flow Meter:

O₂

N₂O

each High-long Rotameters. (290 m/m)

6. Cabinet

small O₂ bomb adapter: x1

small N₂O bomb adapter: x1

drawers: x3

table: x1

7. Caster wheel size: 100 ϕ m/m

3. Anesthetic Table

- Specifications -

1. Dimensions: 500 W x 850 D x 400 H

2. Cabinet

drawers: x2

glass tables: x2

3. Caster wheel size: 100 ϕ m/m

4. Stainless steel

4. Anesthetic Chair

- Specifications -

1. Dimensions: 400 ϕ x High 750H
Low 510H

5. Endotracheal Set, (Vinyl)

16 Fr
18 Fr
20 Fr
22 Fr
24 Fr
26 Fr
28 Fr
30 Fr
32 Fr
34 Fr
36 Fr

; with Cuff

6. Gas Cylinder (N₂O)

- Specifications -

1. Capacity: 3.5ℓ
2. Steel

7. Oxygen Cylinder (O₂)

- Specifications -

1. Capacity: 3.5ℓ
2. Steel

8. Respirator

- Specifications -

1. Dimensions: 630 W x 490 D x 960 H
2. Weight: 58 kg
3. Power Source: AC 220V 2A
4. Respiration Rate: 6 ~ 50 times
5. Tidal Volume: 200cc ~ 1,800cc
6. Plateau: 0 ~ 1 sec
7. Trigger Sensitivity: -1 cm/H₂O
8. Waiting period for assist respiration: 1 ~ 8 sec

9. IMV Rate: 1 ~ 14 times/min.
10. Oxygen Flow meter: 1 ~ 10 l/min.
11. Pressure of airway: -10 ~ 70 cm/H₂O

C. ICU Recovery Room

1. Oxygen Tent

- Specifications -

1. Dimensions: 430 W x 350D x 1180 H
2. Weight: 57 kg
3. Power source: AC 220V 2A
4. Range of Oxygen Flow:

Flush 80 ℓ/min
Flow meter 0 ~ 15 ℓ/min
5. Range of temperature control: 0 ~ 50°C
6. Range of humidity: 0-90% or more in relative humidity
7. Cooling system: Total closed type compressor, 200W
8. Heating system: Heater, 300W
9. Air supply to tent: Fan system, 10W
10. Size of plastic tent:

Upper 670 x 880	x 1400H
Lower 900 x 1200	
11. Pressure resistance of oxygen hose: 10 kg/m²
Ultrasonic Nebulizer
 1. Power source: AC 220V 45W
 2. Nebulization: 0 ~ 6 ml/min
 3. Ultra Hz: 1.7 MHZ

2. Patient Monitoring System

3. E.C.G.

1. Channel Electrocardiograph

- Specifications -

This device is used to examine the function of the cardiac muscular system with the variation of the potential difference occurred whenever the cardiac muscles move.

Especially, this device is designed in safety so as not to expose patients to hazardous situations.

The distinguished features are as follows.

- (1) Portable, 4way operation, A.C. line, Rechargeable battery, Flashlight "D" cell, Car battery.
- (2) Patient safety Floating Isolation Input.
- (3) Defibrillator Protection.
- (4) Meets. A.H.A. Standards.
- (5) Built in A.C. notch filter against 50/60 HZ interference, External D.C. input and i V output connection terminals.
- (6) Simple operation, no warmup time required.

- Specifications -

Input Impedence: Greater than 50Megohms

Recording Method: Heat stylus recording, chart
50^{mm} x 20^m or 30^m roll, casset loading

Sensitivity: 1/2, 1 & 2 ±2 %

Standardization: Calibration signal 1 mV

Amplitude Deflection: Greater than ±20 mm

Chart Speeds: 25 or 50 mm/sec

Lead Selector: 12 lead STD, I, II, III, AVR, AVL, AVF,
V1, V2, V3, V4, V5, V6

Automatic base line reset between lead positions

Leakage Current: Less than 10 microaperes

Power Requirement: 100 - 130/200 - 250 Volts, 50 or 60 HZ

Battery Operation: Rechargeable "DRYFIT" type sealed unit
Disposable flashlight type "D" cell

4. E.C.G. Monitor

- Specifications -

This system is normally used in intensive and coronary care facilities where either serious patient undergone operations or

heart diseases patients monitoring is desired.

It can be provided for 2CG, heartrate, pressure, respiration and temperature for four patients at the same time.

- Specifications -

* CENTRAL MONITOR

: Cathode-ray tube	10" rectangular, electromagnetic deflection
: Display code	Non-fade display
: Tracing mode	Moving trace
: No of channels	Four
: Memory time	5.2 sec for a channel; 20.8 sec when four channels are in cascade mode

: Heartrate display unit

Heartrate indication	30 - 300 beats/min digital indication
Alarm indication	Through lamp and speaker
Linearity for heartrate	1V - 100 beats/min

: Temperature display unit

Temperature indication	32 C - 42 C
Linearity for temp.	1V - 60/min

: Respiration display unit

Respiration indication	10 - 120 beats/min digital indication
Alarm indication	Through lamp and speaker
Linearity for resp.	1V - 60/min

: Bloodpressure display unit

Bloodpressure indication

Arterial pressure 250MM hg/2.5V

Venous pressure 50mmHG/

Linearity for B.P.

Arterial pressure 250mmHG/2.5V

Venous pressure 50mmHG/2.5V

: Recorder unit

Input impedance 100k ohms

Sensitivity 0.5, 1, 2 cm/V p-p
(3steps switching)

Automatic recording 20s automatic recording is initiated by either of alarm signal from heartrate meter and timer setting.

* BEDSIDE MONITOR

BEDSIDE MONITOR has each Amplifier to input each physical phenomenon to the central monitor.

5. Defibrillator

- Specifications -

This device is normally used to provide emergency treatment of disorders of ventricular or arterial fibrillation, arrhythmia and arrest.

It is the well-designed cardiac monitoring resuscitation system in terms of safety.

DC Defibrillator

Output Energy: Adjustable 0 to 400 Joules stored energy

Recharging Time: 3 sec. (time constant)

Discharging Time: 2.4 ms

Synchronizing Time: Can be optionally set to ON and OFF

ECG Monitor

Cathode Ray Tube: 5.5" persistent image
Input Impedance: Greater than $5M\Omega \times 2$
Sensitivity: Greater than 30mm/mV
Lead Selection: I, II, III, aVR, aVL, aVF, V
Heart Rate Indication: 30 - 220 beats/mm
Sweep Speed: 25 and 50 mm/sec

Automatic Recorder

Sensitivity Selection: 5, 10, 20 mm/mV
Chart Speed: 25 and 50 mm/sec
Recording System: Heat stylus direct writing on 50 mm wide recording paper

6. Ambu Bag (hand drive type)

1 ea One-way valve
1 ea Large mask
1 ea Small mask
1 ea Air supply bag

7. Oxygen Cylinder

O₂ 1500ℓ

8. Oxygen Cylinder Truck

For one Gas Cylinder, 1,500ℓ

9. Face Mask

Plastic with rubber cushion (Adult)

Large 120mm

Small 100mm

All rubber (Child)

Large 80mm

Small 60mm

10. Endotracheal Set (Vinyl)

16 Fr

18 Fr

20 Fr

22 Fr

23 Fr

24 Fr

26 Fr

28 Fr

30 Fr

32 Fr

34 Fr

36 Fr

; with Cuff

11. Suction pump (Small)

Refer to A.8.

12. Irrigator Stand (Mobile)

Refer to A.14.

13. Sphygmomanometer (Mercurial floor model)

Adjustable from 1,180mm to 1,610mm in height,
mercury gauge tube 3.4mm ϕ x 9mm ϕ x 320mm (300mmHg)

- D. Surgical Equipment
1. Major surgical set
 2. Minor surgical set
 3. Pediatric surgery set
 4. Brain surgery set
 5. Lung surgery set
 6. Gastrointestinal surgery set
 7. Cholecystectomy
 8. Rectum surgery set
 9. Nephrectomy set
 10. Prostatectomy set
 11. Thyroidectomy set
 12. Tracheotomy set
 13. Vascular surgery set
 14. Plastic surgery set
 15. Orthopedic operation set
 16. Mastoidectomy set
 17. Tonsillectomy set
 18. Lymphanoplastic surgery set
 19. Ear micro surgery instrument set
 20. Eye operation set
 21. Microsurgery set
 22. Operation microscope
 23. General surgical store (large)
 24. General surgical store (small)
 25. Rectoscope
brass, chrome plated 20mm x 140mm long

26. Blood exchange set

New born baby, sterile, disposable, sealed in polyethylene bag.

Contents: 1 blood discharging bag, 600ml; 1 three-way tube, 10 Fr; navel venous catheter, 5, 6, & 8 Fr. each one; 2 plastic syringes without needle, sterile, 2Q cc; 1 plastic syringe with needle, 10 cc; 1 exchange valve, reusable.

1. MAJOR SURGICAL SET IN WOODEN CASE

1.	Amputating Knives	2
2.	Periosteotome	1
3.	Resecting Knife	1
4.	Tenotome	1
5.	Scalpel	1
6.	Operating Knives, sharp pointed	3
7.	Operating Knife, curved, probe pointed	1
8.	Operating Scissors, straight	3
9.	- ditto -, but curved on flat	3
10.	Kocher Hemostatic Forceps, with mouse teeth	30
11.	- ditto -, but without teeth	10
12.	Thumb Dressing Forceps	5
13.	Mouse Tooth Tissue Forceps	3
14.	Aneurism Needle	1 set
15.	Retractors, 2-prong, Blunt	2
16.	- ditto -, but 4-flat blade, Large & Medium, 2 each	4
17.	Peritoneal Forceps	6
18.	Intestinal Forceps, straight & curved, 2 each	4
19.	Lieus Trocar	1
20.	Gossett Self-retaining Abdominal Retractor	1
21.	Double-ended Curette	1
22.	Bone Curettes, Large, Medium, & small	1 each
23.	Periosteal Raspatory	1
24.	Langenbeck Bone Holding Forceps	1
25.	Sequestrum Forceps	1
26.	Luer Bone Rongeur, Straight & curved, 2 each	4
27.	Liston Bone Cutting Forceps	1
28.	Charriere Amputating & Resecting Saw	1
29.	Langenbeck Metacarpal Saw	1
30.	Bone File	1
31.	Metal Retractor for Amputation of the legs	1
32.	Chisels	2
33.	Gouges	2
34.	Lead Filled Bone Mallet	1
35.	Towel Forceps	4
36.	Nathieu Needle Holder, 19 cm	2

37.	Suture Needle	30
38.	Abdominal Suture Needles	20
39.	Suture Bobbin	1
40.	Cleveland Ligature Carriers	2
41.	Probes with eye	5
42.	Grooved Probes	2
43.	Esmarch Tourniquet	1

2. MINOR SURGICAL SET IN CHROME-PLATED METAL CASE

1.	Operating Knives	3
2.	Retractor, One-prong	1
3.	Double-ended curette	1
4.	Probe	1
5.	Grooved Probe	1
6.	Dressing Forceps	1
7.	Tissue Forceps, 1 x 2 teeth	1
8.	Operating Scissors, curved	1
9.	Operating Scissors, straight	1
10.	Kocher Hemostatic Forceps	2
11.	Mathieu's Needle Holder	1
12.	Suture Needles	5
13.	Suture	2
14.	Suture Needle Container	1

3. PEDIATRIC SURGERY INSTRUMENT SET

1-A.	Microvascular Mosquito Hemostatic Forceps, straight, no tooth B/L 12.5 cm	3
1-B.	- ditto -, but curved	3
2-A.	Infant Mosquito Hemostatic Forceps, straight, no tooth B/L 12.5 cm	20
2-B.	- ditto -, but curved	5
3.	Infant Kelly Hemostatic Forceps, straight, with tooth B/L 14.5 cm	5
4.	Infant Kocher's Hemostatic Forceps, straight with tooth B/L 14.5 cm	5
5.	- ditto -, but no tooth	5
6.	Kocher's Hemostatic Forceps, curved, no tooth B/L 14.5 cm	6
7.	Scissor, thin tip end, 12.5 cm	1
8.	Metzenbaum Scissors, curved 18 cm	1
9.	- ditto -, but 12.5 cm	1
10.	Operating Scissors, sharp & sharp, curved 14 cm	1
11.	Small Retractor, 18 cm	1
12.	Retractor, large 7 x 17 mm	2
13.	- ditto -, but small 5 x 17 mm	2
14.	Two Prong Retractor, 17.5 cm	2
15-A.	Infant Retractor	1
15-B.	- ditto -, but small	1
16.	Respiratory Forceps, B/L 14 cm	3
17.	Elevator, double end (A) 18.5 cm	1
18.	- ditto -, but (B)	1
19.	Cleveland Ligature Carrier, small (right)	1
20.	Small Tender Speculum No. 1,2,3, 21 cm	1 each
21.	Infant Intestinal Forceps, straight B/L 15 cm	2
22.	- ditto -, but curved	2
23.	Infant Satinsky's Blood Vessel Forceps B/L 16 cm	2
24.	- ditto -, but 13 cm	2
25.	Mayo-Hegar Needle Holder, durable-grip jaws 16 cm	1
26.	- ditto -, but with hall	1
27.	Small Periosteal Raspatory 17 cm	1

4. BRAIN SURGERY INSTRUMENT SET

1.	Raney Scalp Clip	40
2.	Raney, Clip Applying Forceps	4
3.	Scalp Clip, children hospital type	20
4.	Hemostatic Forceps, Box lock, without teeth, curved, 14.5 cm	20
5.	- ditto -, but 12.5 cm	10
6.	- ditto -, but straight, 14.5 cm	10
7.	Kelly Hemostatic Forceps, fine tip, curved, 22 cm	2
8.	Lucae's Coagulation Dressing Forceps, (with platinum)	1
9.	- ditto -, but Black, 17 cm	1
10.	- ditto -, but Green, 20 cm	1
11.	Coagulation Forceps	1
12.	- ditto -, but tips curved upwards, 20 cm	1
13.	- ditto -, but fine tip, 17.5 cm	1
14.	Irrigating & Aspirating Syringe	2
15.	Fraizer's Ventricular drainage tube, Large, 5 cm	2
16.	- ditto -, but medium, 3 cm	4
17.	Silver Clip Wire (5 to one pack)	2
18.	Still's Silver Clip Forming Forceps	1
19.	Silver Clip Holding Rack	1
20.	Silver Clip Applying and Removing Forceps	4
21.	- ditto -, but for deep vessels (Alligator Action)	1
22.	Dura Scissor	1
23.	Dura Hook Forceps	1
24.	Electrode Holder	1
25.	Operating Scissors, curved, 14 cm	1
26.	- ditto -, but 16 cm	1
27.	Metzenbaum Scissors, Long	1
28.	Tendon Knife	1
29.	Olive-Crona Bayonet-Shaped	1
30.	Craniotome with Accessories	1 set
31.	Periosteal Raspatory	1
32.	Periosteal Raspatory, double-ended, large	1
33.	- ditto -, but small	1
34.	Wire Guide, single, 5 mm and 6 mm wide	1 each
35.	Olive-Crona Wire Saw, 40 cm	10

36.	Wire Saw Handle, in pair	2 sets
37.	Dahlgren's Cranial Rongeur	1
38.	Cranial Rongeur, eleveter, Large	1
39.	- ditto -, but small	1
40.	Skull Drill	1
41.	Bone Rongeur, Double action curved on flat, L-type	1
42.	- ditto, but heavy curved on flat, L-type	1
43.	Double Action Bone Rongeur, Small, straight	1
44.	- ditto -, but curved on flat	1
45.	Jansen's Self-retaining Retractor, sharp	2
46.	- ditto -, but blunt	2
47.	Beckman-Adson's Self-retaining Retractor, Large, sharp	1
48.	- ditto -, but small, sharp	1
49.	- ditto -, but large, heavy curved	1
50.	- ditto -, but small, curved	1
51.	Ventricular Needle, 17G, 18G	2 each
52.	Ventricular tube	3
53.	Guide tube for Ventricular tube with rubber catheter	2
54.	Dura Raspatory, heavily curved	1
55.	- ditto -, but curved	1
56.	- ditto -, but slightly curved	1
57.	Brain Retractor, Flexible, Long, No. 1 - 4	2 each
58.	- ditto -, but short, No. 1 - 3	2 each
59.	Nerve Hooks, Angle tip	1
60.	- ditto -, but tip curved on flat	1
61.	Brain Mucosa Forceps, 1 x 2 teeth	2
62.	- ditto -, but 3 x 4 teeth	2
63.	Mayo-Hegar Needle Holder with Magnet, 16 cm	2
64.	Tumor Removing Spoon, Large, 10 mm	1
65.	- ditto -, but Medium, 6 mm	1
66.	- ditto -, but small, 3 mm	1
67.	Adson Hypophysis Forceps, tips 8 mm	1
68.	Gruenwald's Nasal Cutting Forceps	1
69.	Brain Curette, Right Angle	1
70.	Brain Curette	1
71.	Tumor Grasping Forceps, Large	1
72.	- ditto -, but small	1

5. LUNG SURGERY INSTRUMENT SET

1.	Operating Knife, Round edge, Sharp pointed & Long blades	1 each
2.	Peristome	1
3.	Kocher's Hemostatic Forceps, with teeth	3
4.	- ditto -, but without teeth	2
5.	Tissue Forceps, with teeth, 13 cm	3
6.	Dressing Forceps, without teeth, 13 cm	2
7.	- ditto -, but 18 cm	3
8.	Urabe's Haemostatic Forceps, longer size	5
9.	Urabe's Aneurysm Needle for Pneumotomy, Right & Left	2 each
10.	Lister Hemostatic Forceps, with teeth, Narrow type	10
11.	- ditto -, but without teeth	10
12.	Kelly Hemostatic Forceps	5
13.	Zweifel Forceps	5
14.	Peritoneum Forceps	5
15.	Lister Hemostatic Forceps, with teeth	5
16.	T pattern Needle Holder for Deep Region	3
17.	Mathieu's Needle Holder	3
18.	Jinnaka's Retractor 4 - 5 cm wide	1 each
19.	Four-prong Retractor	1
20.	Retractor, Flat, Extra large	1
21.	Cooper Scissor, 13 cm	3
22.	- ditto -, but 16 cm	2
23.	Toryo's Scapular Retractor	2
24.	Sauerburg's Rib Shear	1
25.	Rib Shear	1
26.	Coryllos's Rib Shear for First Rib	1
27.	Langenbeck's Periosteal Elevator	1
28.	" " Raspatorium	1
29.	Periosteal Raspatory, double ended	1
30.	Allis's Lung Grasping Forceps	1
31.	Lambotte's Bone Holding Forceps	1
32.	Doyen's Periosteal Raspatory	1
33.	Seiranso's Periosteal Raspatory, slightly & heavily curved	1 each
34.	Sponge Bowl & Beaker	1 each
35.	Scale	1

36.	Suture Bobbin	1
37.	Sterilizer Forceps	2
38.	Towel Forceps	10
39.	Suction Tube	1
40.	Intestinal Spatula, Small	1
41.	Probe, with and without eye	1 each
42.	Surgical Suture Needle	50
43.	Rasp	1
44.	Luer's Bone Holding Forceps	1
45.	Teflon Tube, 40 mm	1
46.	Rib Spreader	1
47.	Rib Retractor	1

6. GASTROINTESTINAL OPERATING SET

1.	Operating Knives; round edge and sharp pointed	1 each
2.	Mayo Scissors, straight, 14 cm	1
3.	- ditto -, but curved	1
4.	- ditto -, but 16 cm	1
5.	Mayo Scissors, 21 cm, Nakayama-mayo	1
6.	Dressing Forceps without teeth, 23 cm	3
7.	- ditto -; 13 cm with teeth and without teeth	3 each
8.	Kocher Hemostatic Forceps with teeth	20
9.	- ditto -, but without teeth	30
10.	Lister Bandage Scissors	6
11.	Kelly Hemostatic Forceps	3
12.	Mikulicz's Peritoneum Forceps, Box Lock	14
13.	Mathieu's Needle Holders 19 cm	3
14.	Roser's Needle Holders, for deep region	3
15.	Ligature Carriers	2
16.	Gossett's Retractor	1
17.	Beaker, Solution Bowl, Suture Bobbin	1 each
18.	Scale	1
19.	Probe with or without grooved	1 each
20.	Three-Prong Sterilizer Forceps	2
21.	Backhaus Towel Forceps	5
22.	Silk Suture, No. 3-9	1
23.	Flexible Retractor, Large, Medium & Small	1 each
24.	Kawardan Intestinal Forceps	1
25.	Otsuki Gastrointestinal Suturing Instrument Set	1
26.	Deschamp's Aneurism Needle, Sharp, Left & Right	1 pair
27.	Surgical Suture Needle	1 set
28.	Doyen's Intestinal Forceps, straight & curved	2 each
29.	Doyen's Gastrointestinal Forceps, straight & curved	1 each
30.	Retractors, 2 prong	2
31.	Langenbeck's Retractors, Flat, 3 sizes	1 each
32.	Doyen's Stomach Clamps	1
33.	Kidney Basin	1
34.	Petridish	1
35.	Needle Case	1

7. CHOLECYSTECTOMY INSTRUMENT SET

1.	Operating Knives, round edge and sharp pointed	1 each
2.	Operating Knives, long sharp pointed	1
3.	- ditto -, 19.5 cm	1
4.	Mayo Operating Scissors, curved, 14 cm	1
5.	- ditto -, but straight, 14 cm	1
6.	- ditto -, but 21 cm long	2
7.	Dressing Forceps, 13 cm with or without teeth	3 each
8.	- ditto -, but 23 cm, without teeth	3
9.	Kocher Hemostatic Forceps	30
10.	Lister Bandage Scissors	10
11.	Kelly Hemostatic Forceps	5
12.	Mikulicz's Peritoneum Forceps, Box lock	8
13.	Mathieu's Needle Holders, 19 cm	3
14.	Roser's Needle Holders, 21 cm	2
15.	Ligature Carriers	2
16.	Gossette Retractor	1
17.	Beaker, Solution Bowl	2 each
18.	Scale, 15 cm	1
19.	Simpson Uterine Sound	1
20.	Three-Prong Sterilizer Forceps	2
21.	Probe, with or without grooved	1 each
22.	Backhou's Towel Forceps	5
23.	Suction tube	1
24.	Gall Stone Scoop, Large, Medium & Small	1 each
25.	Bladder Stone Scoops, " " "	1 each
26.	Museux's Forceps, with 2 prongs	2
27.	Intestinal Spatula, Small	1
28.	Miklicz's Intestinal Spatula	1
29.	Flexible Retractor, Large, Medium & Small	1 each
30.	Deschamp's Aneurism Needle, Left & Right	1
31.	Doyen's Intestinal Forceps, Straight & curved	2
32.	Gall Bladder Forceps	2

8. RECTUM SURGERY SET

1.	Operating Knife, round edge	1
2.	" sharp pointed	1
3.	Peristeotome	1
4.	Scissors, straight	1
5.	" curved	1
6.	" curved, long	1
7.	Forceps, with teeth, small	1 set
8.	" without teeth, small	1 set
9.	" " medium	1 set
10.	" " long	1 set
11.	Backhaus' Towel Forceps	10
12.	Kocher's Hemostatic Forceps, without teeth	15
13.	" " " with teeth	50
14.	" " " with teeth, curved - large	5
15.	" " " without teeth, curved - large	5
16.	Mikulicz's Peritoneum Clamp	8
17.	Kocher's Hemostatic Forceps, without teeth	7
18.	Hemostatic Forceps (straight, curved)	1 each
19.	Mathieu Needle Holder	1 set
20.	Wagner " "	1 set
21.	Urabe's Needle Holder for deep region	1 set
22.	Cleveland's Ligature Carrier, small	1
23.	Schmieden's Aneurism Needle with Grooved Probe, strongly curved	1
	Schmieden's Aneurism Needle with Grooved Probe, curved	1
24.	Mathieu's Sequestrium Forceps	1
25.	Flexible Intestinal Spatula	1
26.	Hikage's Sucker	1
27.	Ohtsuki's Adminal Retractor	1 set
28.	Langenback's Flat Retractor	1 set
29.	Kocher's Sharp Retractor, 2 prong	1 set
30.	Double Ended Retractor, blunt - large	1 set
31.	" " small	1 set
32.	Deschamp's Aneurism Needle, left and right	1 each
33.	Leopold's Aneurism Needle	2

34.	Doyen's Intestinal Clamp, curved	2
35.	Doyen's Intestinal Clamp, stright	1
36.	Bone Rasp	1
37.	Brun's Curettes	1
38.	Langenbeck's Periosteal Raspatory	1
39.	Osteotome	1
40.	Langenbeck's Periosteal Elevator	1
41.	Ohtsuki's Gastrointestinal Suturing Clamp (Large, Small)	1 set
42.	Ohtsuki's Intestinal Spatula (Large, Small)	1 each
43.	Retractor	1 set
44.	Ohtsuki's Abdominal Speculum	1
45.	Wooden Hammer	1
46.	Luer's Bone Rongeurs	4
47.	Zonde	1
48.	Suturing Needle (Various Types)	3 doz.

9. NEPHRECTOMY INSTRUMENT SET

1.	Pean Hemostatic Forceps, 14 cm	30
2.	Kocher Hemostatic Forceps, 14 cm	20
3.	Pean Hemostatic Forceps, 18 cm	20
4.	Kelly Hemostatic Forceps, 23 cm	5
5.	" " " , fine tip, 18 cm	2
6.	Mosquite " "	20
7.	Zweifel " "	5
8.	Hebner Vascular Clamps	3
9.	Bulldog Vascular Clamps	2
10.	Sachinsky Vascular Clamps, Large	2
11.	- ditto -, but Medium	2
12.	- ditto -, but Small	2
13.	Botallo's Arterial Duct Clamp, Medium	2
14.	Operating Knife, Round edge, Medium	1
15.	- ditto -, but sharp point, Small	1
16.	- ditto -, but medium	1
17.	Iris Scissors	1
18.	Standard Operating Scissor	3
19.	Mayo Dissecting Scissors, 19 cm	2
20.	Metzemaum Scissors, 19 cm	2
21.	Blood Vessel Scissors, Sharp & Sharp	1
22.	Koken Pattern Rib Shear	1
23.	Retractors, Flat, Large	2
24.	- ditto -, but Medium	2
25.	- ditto -, but Small	2
26.	Two-prong Retractor	2
27.	Abdominal Retractor, 60 m/m	2
28.	- ditto -, but 35 m/m	2
29.	Three-prong Retractor	2
30.	Needle Holder with Diamond Point, XDJ-350	2
31.	- ditto -, but XDJ-320	2
32.	Forceps with Diamond point, XDJ-520	1
33.	Dressing Forceps, fine tips, without teeth, 18 cm	2
34.	Dressing Forceps, without teeth, 23 cm	2
35.	- ditto -, but 18 cm	4
36.	Tissue Forceps with teeth, 16 cm	1

37.	- ditto -, but 13 cm	2
38.	Dissecting Forceps	4
39.	Lucae's Forceps	2
40.	Blood Vessel Needle Holder	2
41.	Hegar's Needle Holder, 18 cm	2
42.	Intestinal Flexible Spatula, 35 x 400 m/m	4
43.	- ditto -, but 25 x 400 m/m	2
44.	Liver Hook, Large	1
45.	- ditto -, but small	1
46.	Aneurism Needle, Large	2
47.	- ditto -, but Medium	2
48.	Aneurism Needle Stand	1
49.	Sponge Holding Forceps, 24 cm	1
50.	Nakayama's Retractor	1
51.	Nakayama's Blood Vessel Anastomosis Instrument, A set	1 set
52.	Raspatory	1
53.	Periosteal Elevator	1
54.	Bone Rasp, straight	1
55.	Luer's Bone Rongeurs, Angled	1
56.	Kidney Basin, 36 cm	2
57.	Suction Tube	2
58.	- ditto -, but large	2

10. PROSTATECTOMY INSTRUMENT SET

1.	Young's Prostatic Bifid Retractor	1
2.	" Prostatic Raspatory	1
3.	" Prostatic Lobe Holding Forceps	1
4.	" Prostatic Tractor	1
5.	Wooden Case	1

11. THYROIDECTOMY SET

1.	Operating Knife, Round and sharp point	1 each
2.	Eye Scissors, Curved	1
3.	Operating Scissors, 14 cm, straight and curved	2 each
4.	- do -, but 18 cm, curved	2
5.	Dressing Forceps, with & without teeth, 13 cm	2 each
6.	- do -, but 23 cm, without teeth	3
7.	Uterine Forceps, with & without teeth	2 each
8.	Kocher Hemostatic Forceps, with teeth	20
9.	- do -, but without tooth	10
10.	Mosquite Hemostatic Forceps	15
11.	Lister Forceps, with & without teeth	5 each
12.	Kelly Hemostatic Forceps	3
13.	Mathieu's Needle Holders, 19 cm	3
14.	Needle Holder For Ureteral	2
15.	Clevelands Ligature Carriers	1
16.	Langenbeck's Retractor, Flat	1
17.	Four Prong Retractor, Blunt	2
18.	Two " " "	2
19.	Deschamp's Aneurism	1
20.	Thyroid Probe	1
21.	Museux's Forceps, with 2 prongs	1
22.	Suture Needle No. 3	2
23.	Backhaus Towel Forceps	5
24.	Three Prong Sterilizer Forceps	2
25.	Probe, with & without Grooved	1 each
26.	Uterine Sound	1
27.	Suture Needle	1 set
28.	Needle Case	1
29.	Scale	1
30.	Suture Bobbin	1
31.	Sponge Bowl & Beaker	1 each
32.	Arterial Clamps	1

12. TRACHEOTOMY INSTRUMENT SET IN WOODEN CASE

1.	Tracheotomes	3
2.	Scissors, straight and curved, 1 each	2
3.	Small Scissors	1
4.	Pean forceps	5
5.	Dressing Forceps	2
6.	Mouse Tooth Tissue Forceps	2
7.	Small Tracheal Retractor 1 prong sharp	2
8.	Small Tracheal Retractors; 2 prongs sharp	2
9.	Tracheal Retractors; 2 prongs Blunt	2
10.	Small retractors flat	2
11.	Grooved Probe	1
12.	Feathers	2
13.	Luer Tracheal Tubes	3

13. VASCULAR ANASTOMOSIS INSTRUMENT SET

1.	Operating Knives, Round edge	1
2.	- ditto -, but sharp pointed	1
3.	Operating Scissors, straight, 14 cm	1
4.	- ditto -, but curved, 14 cm	1
5.	- ditto -, but curved, 18 cm	1
6.	- ditto -, but for Nerve, straight	1
7.	- ditto -, but curved	1
8.	Tissue Forceps, 13 cm with teeth	2
9.	Dressing Forceps, 13 cm without teeth	2
10.	- ditto -, but 23 cm without teeth	2
11.	Blood-Vessel Forceps, with teeth	2
12.	- ditto -, but without teeth	2
13.	Mathieu's Needle Holder, 16 cm	2
14.	Blood Vessel Needle Holder	1
15.	Operating Knife Handle No. 4	2
16.	Kocher' Hemostatic Forceps, 1 x 2 teeth	35
17.	- ditto -, but without teeth	25
18.	Mosquito Hemostatic Forceps, without teeth	20
19.	Pean Hemostatic Forceps	10
20.	Backhaus Towel Forceps	10
21.	Satinsky's Blood Vessel Forceps	2
22.	Zweifel Forceps	3
23.	Mosquite Hemostatic Forceps, 1 x 2 teeth	10
24.	Scale	1
25.	Probe	1
26.	Suture Needle	1 set
27.	Nelaton Catheter, 3 - 12 english size (10 sizes)	1 each
28.	Cleveland's Ligature	1
29.	Deschamp's Aneurism Needle, Right, Left, Large & Small	2 each
30.	Flat Retractor, 1 x 3, 5 x 4, 3 x 6	1 set ea.
31.	Flat Retractor for Nerve	1 set
32.	Two-prong Retractor for Nerve	1 set
33.	Thyroid Probe	1
34.	Suction Cannula for Nasal, Wide & Narrow	1 each

14. PLASTIC SURGERY INSTRUMENT SET

1.	Mayo-Hegar Needle Holder, with diamond jaw, 12.5 cm	2
2.	- ditto -, but 14 cm	2
3.	Mosquite artery Forceps, no hook, straight, 12.5 cm Box lock	15
4.	- ditto -, but curved, 12.5 cm	15
5.	Graefe Forceps, 12 cm	2
6.	Adson's fine Forceps, no hook, 12 cm	2
7.	- ditto -, but with hook, 12 cm	2
8.	McUndoe's Forceps, no hook, 15 cm	2
9.	- ditto -, but with hook, 15 cm	2
10.	Plastic Single Hook Retractor, 16 cm	4
11.	Plastic Double Hook Retractor, 16 cm	2
12.	Plastic Flat Hook Retractor, 4x15mm, 16 cm	2
13.	Operating Scissor, Sharp & Sharp, straight, 10.5 cm	1
14.	- ditto -, but curved, 10.5 cm	1
15.	Plastic Surgery Scissor, straight, 10 cm	1
16.	- ditto -, but curved, 10 cm	1
17.	Mayo Dissecting Scissors, straight 14 cm	1
18.	- ditto -, but curved, 14 cm	1
19.	Netzembaum Scissors, straight, 16 cm	1
20.	- ditto -, but curved, 16 cm	1
21.	Asch type Raspatory No. 5, 16 cm	1
22.	Howarth Nasal Raspatory, 21.5 cm	1
23.	Compass	1
24.	Operating Knife Blade, No. 10, 11, 15.	1 each doz.
25.	Operating Knife Handle, No. 3	2
26.	Metal Scale, 15 cm	1
27.	High pressure injection syringe, 10 cc	2
28.	Scissors for suture removal, 11.5 cm	1
29.	Suture Needle	50
30.	Drawing Pen	1
31.	Case	1

15. ORTHOPEDIC OPERATING INSTRUMENT SET

Consisting of: I. Todai Type Craniotome: Contents: The following 1 - 5.

1.	Handle	1
2.	Reamer, convex (40, 42, 44, 46 mm), each 1	4
3.	Reamer, concave	1
4.	Driver, T type	1
5.	Wooden Case	1

II: Kirchner's Hand Bone Drill: Contents: the following 1 - 4.

1.	Kirchner's Steel-wire Guide	1
2.	Sharp Drill	1
3.	Twist Drill	1
4.	Bone Drill	1

III: Bone Saw Set: Contents: the following 1 - 16.

1.	Bone Saw with cord	1
2.	Kirschner Wire Guide	1
3.	Wire Guide	1
4.	Chuck Key	1
5.	Wrench	1
6.	Sharp Drill	3
7.	Twist Drill	5
8.	Ball Bar, large, medium, small, each 1	3
9.	Saw Holder	1
10.	Bar Wrench	1
11.	Wire Fixing Washer	2
12.	Wire Fixing Screws	2
13.	Borschard Traction Bow (Medium)	1
14.	- ditto - (Small)	1
15.	Kirchner's wire	5
16.	Wooden Case	1

IV: Kirshner Wire Traction Instrument Set:
Contents: the following 1 - 13.

1.	Bone Saw with cord	1
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2.	Kirschner Wire Guide	1
3.	Wire Guide	1
4.	Chuck Key	1
5.	Wrench	1
6.	Sharp Drill	3
7.	Kirschner Wire, 1.5 m/m	5
8.	Wire Traction Instrument	1
9.	Wire Traction Bow, Large	1
10.	Box Wrench	1
11.	Wire Fixing Washer	2
12.	Wire Fixing Screws	2
13.	Wooden Case	1

V: Laminectomy Operating Set: Contents: the following 1 - 20

1.	Spinal Rasping Forceps	1
2.	Luer's Bone Rongeurs, Right	1
3.	" " " , Left	1
4.	" " " , Straight	1
5.	Stille-luer Rongeur Forceps, angle on side	1
6.	- ditto -, but curved	1
7.	Osteotomes, Large & small, each 1	2
8.	Square Gauge	1
9.	Spinal Plate	1
10.	Laminectomy retractor	1
11.	Elevator for Cutting Soft tissue	1
12.	Bone Elevator	1
13.	Meniscotome	1
14.	Operating Knives	2
15.	Dura Scissor	1
16.	Needle Holder	1
17.	Retractor	1
18.	Dressing Forceps, 15 cm	2
19.	Knives Holder	1
20.	Wooden Case	1

VI: Hand Surgery Operating Set:
Contents: the following 1 - 40

1.	Luer Bone Rongeur Forceps	1
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2.	Suture Wire Cutter	1
3.	Tendon Raspatories, convex	1
4.	- ditto -, but side angled	1
5.	Suture Wire No. 36, 20 meter long	1
6.	- ditto -, but No. 38, 20 meter long	1
7.	- ditto -, but No. 40, 20 meter long	1
8.	Kirschner Suture Wire, 0.8 x 120 m/m	10
9.	- ditto -, but 1.0 x 120 m/m	10
10.	- ditto -, but 1.2 x 120 m/m	10
11.	Tendon Suture Needle, curved, regular eye, medium	10
12.	- ditto -, but small	10
13.	Suture needle 30 m/m	10
14.	- ditto -, but 40 m/m	10
15.	Mosquite Hemostatic Forceps, curved without teeth	2
16.	- ditto -, but straight, without teeth	10
17.	Needle Holder with Diamond Point, No. 320	1
18.	- ditto -, but No. 410	1
19.	Palatorrhapy Scissors, straight & curved, each 1	2
20.	Suture Wire Scissors	1
21.	Allis Tendon Dressing Forceps	1
22.	Retractor, one-prong, Sharp	2
23.	Retractor, Two-prong, Sharp & Blunt, each 1	2
24.	Elevators	1
25.	Retractor	2
26.	Nylon Mallet, Small	1
27.	Osteotomes, curved & Straight, each 1	2
28.	Eleva-Raspatorium	1
29.	Pen	1
30.	Palatorrhapy Forceps, no teeth	2
31.	Hand Chuck	1
32.	Ink Bottle	1
33.	Esmarch Tourniquet	1
34.	Spoit	1
35.	Buttons for suture wire	20
36.	Tendon Stripper	1
37.	Suture Wire Inpactor	1
38.	Suture Wire Extractor	1
39.	Finger Drill	1
40.	Metal Case	1

16. MASTOIDECTOMY SET

1.	Operating Knife, Oval, Large & small	1 each
2.	- ditto -, but sharp pointed	1
3.	Operating Scissors, 18 cm	1
4.	Operating Scissors, straight, 14 cm	1
5.	- ditto -, but curved, 14 cm	1
6.	Operating Scissors	1
7.	Kocher Hemostatic Forceps, with teeth, Box lock	40
8.	- ditto -, but without teeth	10
9.	Lister Forceps, with teeth	7
10.	- ditto -, but without teeth	5
11.	Kelly Hemostatic Forceps, Box lock	5
12.	Cleveland's Ligature Carriers, Right	1
13.	Deschamp's Aneurism Needle, left & right	1 each
14.	Mathieu Needle Holder	3
15.	Curette, Large, Medium, Small	1 each
16.	Langenbeck's Retractor, Flat, Large, Medium & Small	1 each
17.	Four-prong, Retractor, Blunt, long	2
18.	- ditto -, but short	2
19.	Two-prong Retractor, Blunt	2
20.	Dressing Forceps, without teeth, 18 cm	3
21.	Ureteral Forceps, with teeth, 18 cm	3
22.	- ditto -, but without teeth	2
23.	Tissue Forceps, with teeth, 13 cm	3
24.	Dressing Forceps, without teeth, 13 cm	2
25.	Silk Suture, No. 3-8	1
26.	Scale	1
27.	Probe, with and without eye	1 each
28.	Backhaus Towel Forceps, Box lock	1
29.	Sterilizer Forceps	1
30.	Beaker 1 lit. Capacity	1
31.	Solution Bowl, 30 cm ϕ	1

17. TONSILLECTOMY SET

1.	Mouth gags Denhart's	1
2.	Mouth gags Whitehead-Jening's (Large, small)	1 set
3.	Mouth gags Whitehead's with tongue depressor	1
4.	tongue despressor Franckel's	5
5.	" " Czermack's	3
6.	" " Plain type	2
7.	Laryngeal applicator Hartmann's A	5
8.	Tonsil syringe set	2 sets
9.	Tonsilotome Baginsky's (Large, Medium, Small)	1 set
10.	Lingual tonsil guillotine (L, M, S)	1 set
11.	Tonsil abscess knife, straight	2 pcs.
12.	- ditto -, but curved	2
13.	Peritonsillar abscess knife Denker's	1
14.	Tonsil seizing forcep, Takahashi's	3
15.	Tonsil seizing forceps for child Yoshii's	2
16.	Kubo's seizing tonsil forceps (L, M, S)	1 set
17.	Tonsil knife & dissector Takahashi's	3
18.	- ditto -, but Tadokoro's	3
19.	Tonsil scissors Tanaka's (Left & Right)	1 set
20.	Tonsil scissors Okada's	2
21.	Tonsil snare Bruening's with wire	1
22.	Tonsil punch Hartmann's A	1
23.	Tonsil haemostatic forcep Beck's straight	5
24.	- ditto -, but curved	5
25.	Ligature forceps Maurice-Sasaki's	2
26.	Staphylorrhaphy Knives Brophy's (1-2)	1 set
27.	Laryngeal mirror (00-6)	10
28.	Handle for above	5
29.	Adenotome Beckmann's (1-5)	5
30.	Adenotome La Force's (1-3)	3
31.	Laryngeal syringe Fraenkel's	3
32.	Epiglottis holder Lublinski's	2
33.	Laryngeal forcep Karl Reiner's	1

18. LYMPHANOPLASTIC SURVERY SET

1.	Operating Knife, round edge	1
2.	- ditto -, but sharp pointed	1
3.	Operating scissor, curved, 14 cm	1
4.	- ditto -, but straight, 14 cm	1
5.	- ditto -, but curved, 18 cm	1
6.	Tissue Forceps, 1 x 2 teeth, 13 cm	2
7.	Dressing Forceps, 13 cm, without teeth	2
8.	- ditto -, but 23 cm	2
9.	Mathieu's Needle Holder, 21 cm long	2
10.	Scale	1
11.	Probe	1
12.	Kocher Hemostatic Forceps, 14 cm.	15
13.	- ditto -, but straight, 18 cm	4
14.	- ditto -, but curved, 18 cm	4
15.	Miklicz's Peritoneum Forceps	8
16.	Mosquit's Hemostatic Forceps, no teeth	3
17.	Lung Rasping Forceps	1
18.	Gossett's Retractor	1
19.	Liver Retractor	1 set
20.	Flat Retractor	1 set
21.	- ditto -, but 8 x 1	1 set
22.	Appendectomy Retractor (Large)	1 set
23.	Muscles Retractor	1 set
24.	Pus Basin, 21 cm x 3 cm deep	1
25.	Sterilizer Forceps	3
26.	Syringe, 20cc & 50cc	1 each
27.	Suture Needle Set	1 set
28.	Surgical Knife Holder, No. 4	2
29.	Pean Hemostatic Forceps, straight, 16 cm	15
30.	- ditto -, but straight, 21 cm	4
31.	- ditto -, but curved, 21 cm	8
32.	Backhaus Towel Forceps	8
33.	Satinsky's Blood Vessel Forceps	1 set
34.	Nelaton Catheter, No. 3,4,5, English size	1 each
35.	Intestinal, Large, Small	1 each

19. EAR MICRO SURGERY INSTRUMENTS SET

1.	Rosen's Knife	1 pc.
2.	Rosen's Raspatory	1 pc.
3.	Rosen's Exploring needles, straight	1 pc.
4.	- do - curved	1 pc.
5.	Rosen's Goug, straight	1 pc.
6.	- do - curved	1 pc.
7.	Rosen's suction tube	2 pcs.
8.	Vinyl tube with connector for suction	1 set
9.	Rosen's Ear speculum, L.M.S.	1 set
10.	Aspiration tubes, NO.00, 0, 1	1 set
11.	Circular punch, straight jaws, extrasmall	1 pc.
12.	Grasping, serrated, extrasmall, straight Forceps	1 pc.
13.	Oval Punch, solid, blade, Takahara's, straight Forceps	1 pc.
14.	Shea's Scissors, straight	1 pc.
15.	Circular biting, straight jaws, Kazama's Forceps	1 pc.
16.	Shea's Knife, incising, small type	1 pc.
17.	Shea's, Pick, sharp	1 pc.
18.	- do - Hook, fenestra, 25'	1 pc.
19.	- do - 45'	1 pc.
20.	- do - 90'	1 pc.
21.	- do - Pick, oblic, slightly, blunt	1 pc.
22.	- do - Curette	1 pc.
23.	- do - Elevator, left angle	1 pc.
24.	- do - right angle	1 pc.
25.	Hand Drill Unit Table controll type	1 set
26.	Manasse-Passow's Retractor	1 pc.
27.	Aural Operating Speculum	1 pc.

20. EYE OPERATION INSTRUMENT SET

1.	Operating Knife, Oval	1
2.	- ditto -, but sharp Pointed	1
3.	Graefe Cataract Knife	2
4.	Nakaizumi After Cataract Knife	1
5.	Jaeger Koratome, straight	1
6.	- ditto -, but curved	2
7.	Scarifying Knife	1
8.	Canaliculus Knife	1
9.	Canaliculus Needle	1
10.	Cystotome	1
11.	Paracentesis Needle	1
12.	Tattooing Needle	1
13.	Bowman Cataract Needle	1
14.	Foreign Body Needle and gouge	1 each
15.	Two-prongs Hook, Sharp	1
16.	Strabismus Hook, Large & Small, each 1	2
17.	Spatula	1
18.	Cornea Curette, Large & small, 1 each	2
19.	Erisceration Spoon, Sharp	1
20.	Cataract Spoon	1
21.	Iris Forceps, straight	1
22.	Komoto Eye Speculum	1
23.	Iris Forceps, curved	1
24.	Fixation Forceps	1
25.	Dressing Forceps	1
26.	Tissue Forceps with teeth	1
27.	Ogawa's Cilia Forceps	1
28.	Kuhnt Entropium Forceps, Large & small, 1 each	2
29.	De-Wecker Iris Scissors	1
30.	Eye Scissors, straight, sharp	1
31.	- ditto -, but curved, sharp	1
32.	- ditto -, but straight, blunt	1
33.	- ditto -, but curved, blunt	1
34.	Enocleation Scissors	1
35.	Weiss Eye Speculum	1
36.	Jaeger's Plate	1

37.	Lacrimal Probe	4
38.	Lacrimal Syringe	1
39.	Enukleation syringe	1
40.	Tokyo Univ. Pattern Needle Holder	1
41.	Suture Needle	20
42.	Eye Suture	2
43.	Needle Case	1
44.	Suture Case	1

21. MICROSURGERY SET

1.	Small Vessel Suturing Instrument, A	1
2.	- ditto -, but B	1
3.	- ditto -, but C	1
4.	Small Vessel Needle Holder, Rigid, straight & curved, 15 cm	1 each
5.	- ditto -, but Flexible, 14 cm	1
6.	Small Vessel Scissor, rigid, 10 cm	1
7.	- ditto -, but Flexible, 18.5 cm	1
8.	- ditto -, but ligature cutting, 18.5 cm	1
9.	Small Vessel Forceps, 0.5 mm, 0.8 mm and sharp tips	1 each
10.	Coagulation Forceps, 12 cm	1
11.	Small Vessel Holding Clamp, 0.5 cm ϕ tips, 11.7 cm long	1
12.	Small Spatula, 18.5 cm	1
13.	Fixed Suture Holding Forceps	2
14.	Bone Holding Forceps for Phalanx Plastic, 14.5 cm	1
15.	Small Wire Staples, 12 cm	1
16.	Small Screws for Phalanx, 6 sizes	10 each
17.	Small Screw Driver for Phalanx, 13 cm	1
18.	Small Screw for Phalanx Fixing, 50 mm	10
19.	Screw Driver for Phalanx Fixing	1
20.	Phalanx Holding Forceps, Large & Small	1 each
21.	Three step's Case	1
22.	Carrying Case	1

22. OPERATION MICROSCOPE

Main Features for Orthopedics

Operation Microscope with Inclined Binocular Tube on Floorstand 1,870mm for Orthopedics.

Microscope body with drum magnification changer, rack and pinion focusing mechanism, body tilt mechanism with gear control, built-in coaxial illumination system with green filter

45° inclined binocular tube

Objective: f 200mm (for Orthopedics)

High-eyepoint eyepieces: with cross hair (for dioptric compensation and photo focusing)

One-channel fiberoptic light guide for coaxial illumination

Inclined coupling piece

Column 1,870mm with counter-weight and sliding microscope carrier arm with 15V 150W halogen lamphousing.

Halogen lamphousing houses two light sources, one as back-up system for instant switch when main lamp is burnt out during operation.

Heavy-duty base with built-in transformer for halogen illuminator, and power supply for electrical flash attachment

Power cable with plug for mains outlet

Optional Accessory

Camera Attachment for 35mm Photography with Camera Body with Motorized Film Winding

Beam splitter

Photo Adapter

Camera body

- * Motor-drive film winding attachment with 1.2m cord for electrical shutter release from remote location
- * Electronic flash attachment

Technical Data Orthopedics

* Microscope Unit

1. Magnification selection: 5 steps
2. Body inclination: Up to 150°

* Binocular Tube

Interpupillary distance adjustment: 52mm to 76mm

* Objectives (f 200mm)

1. Total magnification (with 10x eyepiece): 3.17x to 20.1x
2. Effective field of view (with 10x eyepiece): 75.7mm to 11.9mm ϕ
3. Working distance: 196mm
4. Eyepoint to site distance: Approx. 385mm

* High-eyepoint

Field number: 24

* Coaxial Illumination System

Field of illumination: f 200mm 100mm ϕ

* Floorstand

1. Max. radius of arm rotation: 600mm
2. Input voltage selector: 100V or 110V, or 220V or 240V

* Camera Attachment

1. Photo magnifications: f 200mm 0.7x to 3.4x
2. Flash attachment: 28WS at every 3 seconds

23. GENERAL SURGICAL STORE (LARGE)

1. Pair of surgical rubber gloves 6 1/2	50
2. Pair of surgical rubber gloves 7	50
3. Pair of surgical rubber gloves 7 1/2	50
4. Pair of surgical rubber gloves 8	25
5. Pair of surgical rubber gloves 8 1/2	25
6. Surgical needle cutting edge 3/8 circle small modele	60
7. Surgical needle cutting edge 1/2 circle small modele	36
8. Surgical needle cutting edge 1/2 circle medium modele	36
9. Surgical needle taper point 1/2 circle small modele,	36
10. Surgical needle taper point 1/2 circle medium modele	36
11. Sterile catgut chromic, 1.25 meter 0000	500
12. Sterile catgut chromic, 1.25 meter 000	1,000
13. Sterile catgut chromic, 1.25 meter 00	500
14. Sterile catgut chromic, 1.25 meter 0	500
15. Sterile catgut chromic, 1.25 meter 1	1,000
16. Sterile catgut chromic, 1.25 meter 2	1,000
17. Sterile catgut chromic, 1.25 meter 3	500
18. Sterile catgut plain 1.25 meter 000	500
19. Sterile catgut plain 1.25 meter 00	500
20. Sterile catgut plain 1.25 meter 0	500
21. Sterile catgut plain 1.25 meter 1	1,000
22. Sterile catgut plain 1.25 meter 2	1,000
23. Sterile catgut plain 1.25 meter 3	500
24. Sterile fine silk 1.25 meter 000	500
25. Sterile fine silk 1.25 meter 00	500
26. Sterile fine silk 1.25 meter 1	500
27. Sterile fine silk 1.25 meter 2	500
28. Sterile fine silk 1.25 meter 3	25
29. Surgical knife blade no 10 - dozen	25
30. Surgical knife blade no 11 - dozen	25
31. Surgical knife blade no 15 - dozen	25
32. Thomas leg splint half ring style with vinyl	10
33. Taureng leg splint, lester half ring	10
34. Zimcode basic frame	5

24. GENERAL SURGICAL STORE (SMALL)

1. Pair of surgical rubber gloves 6 1/2	50
2. Pair of surgical rubber gloves 7	50
3. Pair of surgical rubber gloves 7 1/2	50
4. Pair of surgical rubber gloves 8	25
5. Pair of surgical rubber gloves 8 1/2	25
6. Surgical needle cutting edge 3/8 circle small modele	60
7. Surgical needle cutting edge 1/2 circle small modele	36
8. Surgical needle cutting edge 1/2 circle medium modele	36
9. Surgical needle taper point 1/2 circle small modele	36
10. Surgical needle taper point 1/2 circle medium modele	36
11. Sterile fine silk 1.25 meter 000	500
12. Sterile fine silk 125 meter 00	500
13. Sterile fine silk 1.25 meter 1	500
14. Sterile fine silk 1.25 meter 2	500
15. Sterile fine silk 1.25 meter 3	25

E. CENTRAL SUPPLY

1. Compact Type High Pressure Steam Sterilizer

This unit sterilizes and dries heat and moisture stable goods such as fabrics, surgical instruments, and utensils at 126°C using saturated steam under pressure as the sterilizing agent.

Overall Dimensions: 630 W × 615 D × 480 H mm

Provided with stand (76 D mm high) and castors

Effective Chamber Dimensions: 295 ϕ × 445 D mm

Effective Jacket Dimensions: 316 ϕ × 465 D mm

Chamber Capacity: 2 pcs. 27 ϕ cm dressing drums

Chamber is made of stainless steel (SUS 304) with satin finish, and enclosed by cabinet.

Pre-vacuum: Vacuum pump works before sterilization to exhaust the residual air in the chamber.

During sterilization, trap works automatically exhausting the residual air.

Sterilizing temperature: 126°C at 1.5 kg/cm²

Sterilization timer starts to work at a specified pressure only.

Drying is made by heat-applied vacuum system, air filter protects from recontamination after sterilization and drying cycle.

Sterilization/drying process is carried by a control knob.

Equipped with low-water warning device.

Water is supplied by attached measuring cup.

Water consumption is 1.5 - 2.0 liters per cycle.

Power source: AC 200/220V, 1 ϕ , 50Hz, 1800W

Net weight: approx. 115 kgs.

Gross weight: approx. 173 kgs.

2. Table Type High Speed Steam Sterilizer

This unit sterilizes heat and moisture-stable goods such as surgical instruments, syringes, clothes, etc. at 132°C using saturated steam under pressure as the sterilizing agent.

Overall Dimensions: 400 W × 430 D × 313 H mm

Effective Chamber Dimensions: 190 ϕ × 350 mm

Chamber is made of stainless steel (SUS 304) with satin finish, and enclosed by cabinet.

Maximum working pressure: 2.3 kg/cm²

Sterilizing Timer: Combined use for 50/60 Hz, for 30 min.

Sterilizing Thermometer: 60 mm ϕ 0 - 150°C

Sterilizing Pressure Gauge: 60 mm ϕ , 0 - 4.0 kg/cm²

Water Tank: 2.5 lit. capacity, stainless steel made, one time water pouring to the tank is enough for continuous sterilization of more than 10 times due to such device as to reverse water and steam after sterilization to the tank.

Low-water warning buzzer sounds whenever the chamber runs out of water.

Safety valve releases excess steam whenever the chamber pressure exceeds a certain level.

Steam after sterilization is completely reversed to the water tank.

Thus, there exist no steam which stain interior of room or create uncomfortable atmosphere.

Complete with: Large trap 2
 Small trap 1
 Square canister .. 1
 Tray handle 1

Power Source: AC 200/220V, 1 ϕ , 50Hz, 1KW

Net Weight: approx. 25 kgs.

Gross weight: approx. 41 kgs.

3. High Pressure Steam Sterilizer

This unit sterilizes and dries heat and moisture stable goods such as fabrics, surgical instruments, and utensils at the pre-set temperature of 121 and 132°C using saturated steam under pressure as the sterilizing agent.

Overall Dimensions: 1,100 W × 1,350 D × 1,850 H mm

Effective Chamber Dimensions: 660 W × 1,000 H × 900 D mm

The pressure vessel including door shall withstand internal working pressure of 2 kg/cm².

Inner chamber is stainless steel and outer jacket is hot-rolled steel.

The backhead is of the same material as the inner chamber.

Door is stainless steel and manually operable. The inner side of the door has a silicon-rubber gasket.

Automatic Control: This motorized unit, operating control valves, shall allow the operator to select the proper programming cycle.

The control shall not operate unless the door is locked.

Pulsing system functions at the initial vacuum cycle through the sterilizer control. Evacuating the chamber by a vacuum pump and charging it with steam is alternately repeated three times to completely purge air in the chamber.

High vacuum drying: Evacuating the chamber for a selected time interval followed by admitting filtered hot air to dry the load and return the chamber to atmospheric pressure.

Combination drying: Evacuating the chamber and admitting the filtered hot air is alternately repeated for a selected time interval.

The sterilizer shall be steam powered and is piped, and trapped for operation on steam from an independent source, delivered at 3 to 4 kg/cm².

Safety devices: Door Locking safety device prevents starting operation.
Steam Supply safety device prevents supplying steam into the chamber.

Temperature Recorder records chamber temperature throughout each cycle. The sensor is in the chamber drain line.

Carriage System: One carriage with a loading car and three shelves are supplied.

Electricity: AC 200/220V 1 ϕ , 50Hz, 300W for control
AC 200/220V 3 ϕ , 50Hz, 2.2KW for vacuum pump

Water consumption: 8 lit./min.

Net Weight: approx. 1,135 kgs.

Gross Weight: approx. 2,000 kgs.

4. High Pressure Steam Sterilizer, High Speed

This unit sterilizes and dries heat and moisture stable goods such as fabrics, surgical instruments, and utensils at the pre-set temperature of 121°C and 132°C using saturated steam under pressure as the sterilizing agent.

Overall Dimensions: 780 W × 1,350 D × 1,750 H mm

Effective Chamber Dimensions: 500 W × 500 D × 900 H mm

The pressure vessel including door shall withstand internal working pressure of 2 kg/cm².

Inner chamber is stainless steel and outer jacket is hot-rolled steel. The backhead is of the same material as the inner chamber.

Door is stainless steel and manually operable. The inner side of the door has a silicon-rubber gasket.

Automatic Control: This motorized unit, operating control valves, shall allow the operator to select the proper programming cycle. The control shall not operate unless the door is locked.

Pulsing system functions at the initial vacuum cycle through the sterilizer control. Evacuating the chamber by a vacuum pump and charging it with steam is alternately repeated three times to completely purge air in the chamber.

High Vacuum Drying: Evacuating the chamber for a selected time interval followed by admitting filtered hot air to dry the load and return the chamber to atmospheric pressure.

Combination drying: Evacuating the chamber and admitting the filtered hot air is alternately repeated for a selected time interval.

The sterilizer shall be steam powered and is piped, and trapped for operation on steam from an independent source, delivered at 3 to 4 kg/cm².

Safety devices: Door locking safety device prevents starting operation. Steam supply safety device prevents supplying steam into the chamber.

Temperature Recorder records chamber temperature throughout each cycle. The sensor is in the chamber drain line.

Two shelves are supplied as standard materials handling accessories.

Electricity: AC 200/220V 1 ϕ 50Hz, 300W for control
AC 200/220V 3 ϕ 50Hz, 1.5KW for vacuum pump

Water Consumption: 5 lit./min.

Net Weight: approx. 560 kgs.

Gross Weight: approx. 900 kgs.

5. Ultrasonic Cleaner

5-1 Washing and Rinsing Tank

Overall Dimensions: 141 W \times 55 D \times 77 H cm

Washing Tank: Inner size, 52 W \times 40 D \times 37 H cm

Made of stainless steel

Oscillation: 600W, 28KHz

Rinsing Tank: Inner size, 52 W \times 40 D \times 37 H cm

Made of stainless steel

Automatic basket swinging device:

Swinging frequency: Washing, 3 times/min.

Rinsing, 5 times/min.

Ultrasonic Generator: All transistor type built-in
washing and rinsing tank
Frequency: 28KHz
Generations: 600W

Required Facilities: Water supply 15A
Drain 40A
Hot water 15A

Water Consumption: 10 - 15 lit./min.

Power Source: AC 200/220V 1 ϕ 50Hz 2.5W

Net Weight: approx. 340 kgs.

Gross Weight: approx. 600 kgs.

5-2 Boiling Tank

Overall Dimensions: 85.5 W \times 55 D \times 77 H cm

Inner Dimensions: 50 W \times 38 D \times 36 H cm

Needed Facilities: Water supply 15A
Drain 25A
Steam supply 15A
Exhaust 15A

Water Consumption: 10 - 15 lit./min.

Net Weight: approx. 120 kgs.

Gross Weight: approx. 210 kgs.

5-3 Drying Tank

Overall Dimensions: 88 W \times 55 D \times 77 H cm

Inner Dimensions: 52 W \times 35 D \times 36 H cm

Electricity: AC 200/220V 1 ϕ 50Hz 3kW

Net Weight: approx. 80 kgs.

Gross Weight: approx. 145 kgs.

6. Surgical Glove Conditioner

For drying and powdering Surgical Gloves.

Overall Dimensions: 104 W × 51 D × 90 H cm

Capacity: 45 pairs gloves

Chambers: Made of stainless steel

For drying: 45 ϕ × 23 cm

For powdering: 45 ϕ × 23 cm

Time Required: about 40 min.

Heater: 750W heater with thermoregulator is provided for drying chamber

Power Source: AC 200/220V 1 ϕ 50Hz 1KW

Net Weight: approx. 125 kgs.

Gross Weight: approx. 220 kgs.

7. Needle Washer

All needles are cleaned by connecting with water pipe.

Outer Dimensions: 60 W × 23 D × 38 H cm

Cleaning Capacity: 50 pcs. of needle at one time

Water Supply Pipe: 16 ϕ mm

Drain Pipe: 30 ϕ mm

Net Weight: approx. 6.5 kgs.

Gross Weight: approx. 12 kgs.

8. Dressing Drum

Stainless steel made

(M) 27 ϕ × 18 cm 3

(S) 18 ϕ × 12 cm 1

9. Dressing Case

Stainless steel made

32.5 × 26 × 7.5 cm

10. Instrument Cabinet

Hinged doors, front, sides, and back section are made of glass, 4 glass shelves, cup-board below, stainless steel

900 W × 360 D × 1,700 H mm

(Net weight: 80 kgs. Gross weight: 120 kgs.)

11. Instrument Tray

Stainless steel made, with cover

36 × 30 × 4 cm

12. Instrument Table

Dimensions: 60 W × 45 D × 84 H cm

Stainless steel, with guard rail

Mounted on easy rolling castor

13. Sterilizer Forcep

Stainless steel, 3-prong

14. Electa Shelf

Dimensions: 91 W × 46 D × 158 H cm

4 shelves

15. Sink Unit

Dimensions: 2,400 W × 600 D × 850 H mm

With two sinks

Net Weight: approx. 100 kgs.

Gross Weight: approx. 150 kgs.

16. Sink Unit

Dimensions: 1,500 W × 600 D × 850 H mm

With one sink

Net Weight: approx. 60 kgs.

Gross Weight: approx. 90 kgs.

17. Counter

Dimensions: 4,000 W × 600 D × 850 H mm

With drawers

Net Weight: approx. 150 kgs.

Gross Weight: approx. 230 kgs.

18. Working Table

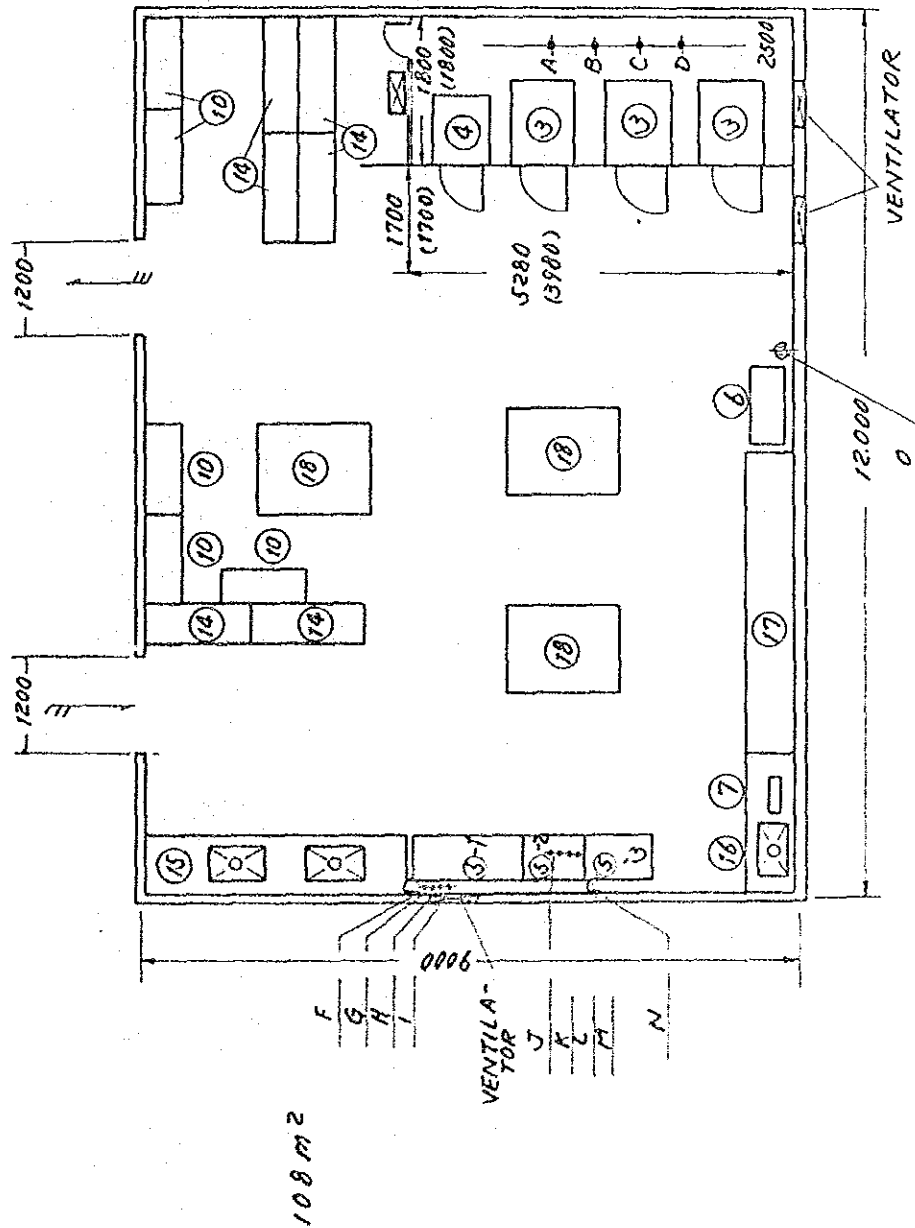
Dimensions: 1,100 W × 1,500 D × 850 H mm

Stainless steel, with castors

Net Weight: approx. 30 kgs.

Gross Weight: approx. 45 kgs.

TYPICAL PLANNING OF CENTRAL SUPPLY ROOM
FOR A CLASS HOSPITALS



3. High Pressure Steam Sterilizer
660 x 1,000 x 900

4. High Pressure Steam Sterilizer
500 x 500 x 900

5-1 Ultrasonic Cleaner

5-2 Boiling Tank

5-3 Drying Tank

6. Surgical Glove Conditioner

7. Needle Washer

10. Instrument Cabinet

14. Electa Shelf

15. Sink Unit

16. "

17. Counter

18. Working Table

* () : 3 x 2 sets and 4 x 1 set

Required Facilities

Installation of: ③ Sterilizer x 3
 ④ Sterilizer x 1

- A. Exhaust 50A (SGP)
- B. Drain 50A (SGP)
- C. Water Supply 25A (SGP) Valve Cock P = 1 - 3 Kg/cm²
- D. Steam Supply 40A (SGP) Valve Cock P = 3 - 4 Kg/cm²
- E. Distribution Board
 - A.C. 200/220V, 3 ϕ , 2.2KW (3HP) x 3
 - A.C. 200/220V, 3 ϕ , 1.5KW (2HP) x 1
 - A.C. 200/220V, 1 ϕ , 0.3KW x 4

Installation of: ③ Sterilizer x 2
 ④ Sterilizer x 1

- A. Exhaust 50A (SGP)
- B. Drain 50A (SGP)
- C. Water Supply 25A (SGP) Valve Cock P = 1 - 3 Kg/cm²
- D. Steam Supply 32A (SGP) Valve Cock P = 3 - 4 Kg/cm²
- E. Distribution Board
 - A.C. 200/220V, 3 ϕ , 2.2KW (3HP) x 2
 - A.C. 200/220V, 3 ϕ , 1.5KW (2HP) x 1
 - A.C. 200/220V, 1 ϕ , 0.3KW x 3

5-1 Ultrasonic Cleaner

F. A.C. 200/220V, 3KW

G. Hot Water Supply 15A (SGP) Valve Cock P = 0.7 Kg/cm²

H. Water Supply 15A (SGP) Valve Cock P = 1 - 1.5 Kg/cm²

I. Drain 32A (SGP)

5-2 Boiling Tank

J. Steam Return 15A (SGP)

K. Steam Supply 15A (SGP) Valve Cock P = 1.5 - 2 Kg/cm²

L. Water Supply 15A (SGP) Valve Cock P = 1 - 1.5 Kg/cm²

M. Drain 25A (SGP)

5-3 Drying Tank

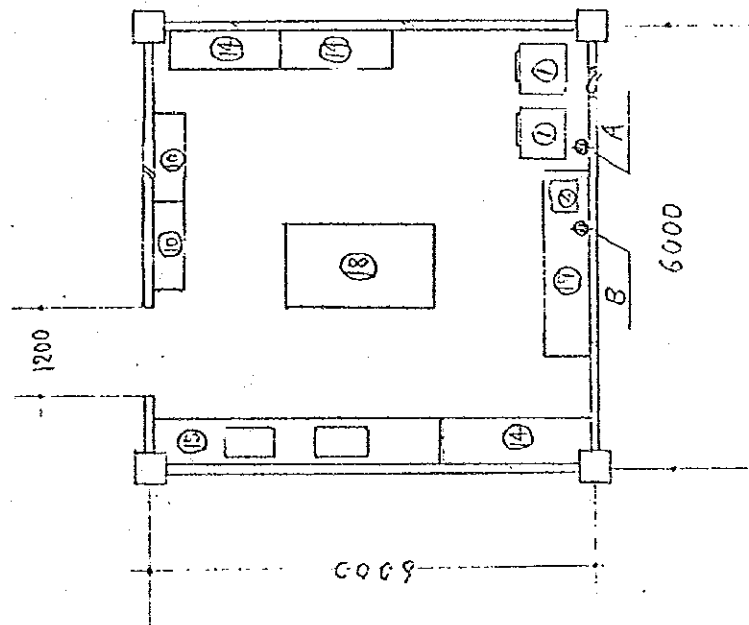
N. A.C. 200/220V, 3KW receptacle

6. Surgical Glove Conditioner

O. A.C. 200/220V, 0.8KW receptacle

Typical Planning for C, D⁺, D class Hospital

- 1. Compact Type High Pressure Sterilizer
- 2. Table Type High Speed Sterilizer
- 10. Instrument Cabinet
- 14. Electa Shelf
- 15. Sink Unit
- 17. Counter
- 18. Working Table



* 36 m²

Ventilator

Required Facilities

1. Compact Type High Pressure Sterilizer

A. A.C. 200/220V, 1.8KW x 2

2. Table Type High Speed Sterilizer

B. A.C. 200/220V, 1KW

F. Injection Syringes and Needles

1. 1 cc Syringes interchangeable
2. 2 cc " "
3. 3 cc " "
4. 5 cc " interchangeable metal
5. 10 cc " " "
6. 20 cc " " "
7. 30 cc " " "
8. 50 cc " " "
9. 100 cc " " "
10. 1 cc " " tuberculin
11. 2 cc " "
12. 1 cc " " insulin
13. Needles intravenous (1 doz)
14. " subcut (1 doz)
15. " transfusion (1 doz)
16. " tuberculin (1 doz)

G. Outpatient Clinic

1. Stethoscope

2. Diagnostic Set

Speculum

Otoscope

Tongue blade and holder

(Transilluminator, Extra lamp)

3. 1 Channel Electrocardiograph

- Specifications -

This device is used to examine the function of the cardiac muscular system with the variation of the potential difference occurred whenever the cardiac muscles move.

Especially, this device is designed in safety so as not to expose patients to hazardous situations.

The distinguished features are as follows.

- (1) Portable, 4way operation, A.C. line, Rechargeable battery, Flashlight "D" cell, Car battery.
- (2) Patient safety Floating Isolation Input.
- (3) Defibrillator Protection.
- (4) Meets A.H.A. Standards.
- (5) Built in A.C. notch filter against 50/60 HZ interference, External D.C. input and 1 V output connection terminals.
- (6) Simple operation, no warmup time required.

- Specifications -

Input Impedence: Greater than 50Megohms

Recording Method: Heat stylus recording, chart
50^{mm} x 20^m or 30^m roll, casset loading

Sensitivity:	1/2, 1 & 2 ±2 %
Standardization:	Calibration signal 1 mV
Amplitude Deflection:	Greater than ±20 mm
Chart Speeds:	25 or 50 mm/sec
Lead Selector:	12 lead STD, I, II, III, AVR, AVL, AVF, V1, V2, V3, V4, V5, V6 Automatic base line reset between lead positions
Leakage Current:	Less than 10 microamperes
Power Requirement:	100 - 130/200 - 250 Volts, 50 or 60 HZ
Battery Operation:	Rechargeable "DRYFIT" type sealed unit Disposable flashlight type "D" cell

4. Sphygmomanometer (mercurial, floor model)

Refer to C.13.

5. Lempert Head Mirror

With head lamp and headband

6. Hystero-salping Graphy Set

Contents:	Infusion syringe (emtal made)	1
	Cannula (metal made) with tip	1
	Uterine vulsellum forceps	2
	Safety tube (glass made)	1
	Metal case (chrome plated)	1

H. Obstetrics & Gynecology

1. Obstetric Delivery Table

1. Dimensions: 60W x 110L x High 85H cm
Low 65H

2. Weight: 237 kg

2. Normal delivery set

3. Extractor

(McLean Tucker Obstetric Forceps)

Stainless steel 39.5 cm

(Piper's Obstetric Forceps)

Stainless steel 43.5 cm

(Nagelis Obstetric Forceps)

Stainless steel 35 cm

4. Doppler Foetus Heart Sound Detector

- Specifications -

Resonant frequency: 2.5 MHz
Maximum ultrasonic energy: 20mW/cm²
Audio Output: 0.5W
Power Requirement: Any voltage specified of 50 or 60Hz
approx. 5 VA
Dimensions: 24.0W x 24.5D x 24.5H cm
Weight: Approx. 4 kgs

Accessories

Standard Transducer 1
Power Cord 1
Power Fuse (0.5A) 1

Monitoring Receiver 1
Dust Proof Cover 1

Optional Accessories

- * Pains Transducer
- * Doppler Transducer

5. Baby Weighing Scale

1. Capacity: 10kg
2. Sensitivity: 20g

6. Neonatal Resuscitator

1. Dimensions: 400W x 300D x 83H cm
2. Weight: 15 kg

7. Vacuum Aspirator

1. Power Source: AC 220V, 0.4A
2. Vacuum Pressure: 0 - 50 mmHg
3. Capacity: 1.5ℓ

8. Incubator

Standard type, manual control (inside temperature electronic control)

Electronic time-proportional control system, tolerance within 1/4 degree C.

Assembly: Main body, cabinet stand, psychrometer, mattress platform, mattress & X-ray cassette case

Accessories: Cap. Syringe & dust prevention cover

Spares: Vinyl cover for arm port and F-3 type filter

External dimension: Main body (99L x 58W x 59cmH)
Cabinet stand (87L x 44W x 69 cmH)
Mattress platform (64.5L x 34.5W)

9. Infusion Pump

1. Power Source: AC 220V, 0.15A
2. Injection Speed: 0.25 mm/min ~ 25 mm/min

10. Gynecological Exam Table

- Specifications -

Fixed height type, back seat inclines from -10 degree to +20 and waist seat from -5 to +10 degree, rolled clinical sheet installed at reverse side of waist seat, dimension - 54cm W x 112 L x 85 H, net weight - approx. 90 kgs.

Accessories: Cannula stand, forceps stand, filth route w/netting, waste can, clinical sheet and head rest.

11. Examination Set

12. Abnormal Delivery Set

13. Caessarian Section Set

14. Hysterectomy Set

15. Curettage & Dilatation Set

16. Vacum Extractor

- Specifications -

Suction pressure: 0 - 750mmHg w/fine adjustment

External dimension: 46W x 40D x 85Hcm

Accessories:	Suction cup, 43 and 55 dia.	1 pc. each
	Suction catheter w/adapter	2
	Hose for vacuum extractor	1
	Suction hose	1

17. Irrigator Stand (Mobile)

Material, Stainless Steel, with double hooks

Mounted on swivel casters

Adjustable from 1,260mm to 2,100mm in height

18. Colposcope

- Specifications -

Lens: Stereo binocular type, 10 times magnifications,
Focuss distance 24cm, Field of view 29mm, for diagnosis

Composition: With small type stand of free inclination

Accessories: Sample scope 1, Spare bulb 1

2. Normal Delivery Set

1. Umbilical Scissors	1
2. Sim's Uterine Scissors, Straight, 18 mm	1
3. Tissue Forceps, 13 cm w/teeth	1
4. Uterine Tissue Forceps	1
5. Kocher's Hemostatic Forceps, short, Straight	2
6. Kean's " " " "	2
7. Waste Receptacle	1
8. Instrument Tray for Delivery with Measure	1

11. Examination Set

1. Sakurai's Vaginal Speculum w/knob, middle	10
2. Vaginal Speculum for Colposcopy	2
3. Cervical Canal Forceps for Uterus cancer	1
4. Mizeu's Uterine Tenaculum Forceps, two prong, box lock	10
5. Yokoyama's Vaginal Punction Needle	1
6. KSK. Hyoteroscope model C, for Ob. & Gy.	1
7. Hysteroscope Transformer for illuminations	1
8. J.O.N.W. Type Uterine Cervical Dilutor, Heger type No. 1-20	2
9. Uterine Probe	30
10. Uterine Tissue Forceps, w/o teeth	30
11. Martin Uterine Tenaculum Forceps, one prong	10
12. Uterine Applicator	10
13. S. type Catheter	10
14. Cusco's Vaginal Speculum, large	15
15. " " " medium	30
16. " " " small	10
17. Sakurai's Vaginal Speculum, w/knob, large	5
18. " " " " small	2
19. Kristeller's Vaginal Speculum, middle	5
20. Azuma's Vaginal Retracter	5

12. Abnormal Delivery Set		
1. Kinoshita's Vaginal Speculum, LL		1
2. Kinoshita's Vaginal Retractor		1
3. " " " , large		1
4. Nagele's Obstetric Forceps		1
5. Piper's Obstetric Forceps		1
6. Nagele's Perforator		1
7. Mesnard's Bone Forceps		1
8. Braun's Decapitation Hook		1
9. Braun's Cranioclast		1
10. Smellie's Obstetric Hook		1
11. Martin's Obstetric Hook		1
12. Hirst's Placenta Forceps	6 m/m	1
13. " " "	7 m/m	1
14. " " "	8 m/m	1
15. Takayama's Placenta Forceps	15 m/m	1
16. " " "	12 m/m	1
17. " " "	9 m/m	1
18. Obstetric Basin		1
19. Instruments Container		1

13. Caesarian Section Set			
1.	Azuma's Abdominal Retractor, large		1
2.	" " " medium		1
3.	" " " small		1
4.	Fritsch's Retractor		2
5.	Saenger's Retractor 38 m/m		2
6.	" " 30 m/m		2
7.	Mikuliez's Peritoneum Forceps		6
8.			2
9.			2
10.	Alexander's Operating Retractor		2
11.	O & K Type Obstetric Scoop		1
12.	Pean's Hemostatic Forceps, short, stright		10
13.	" " " long, "		10
14.	" " " " curved		10
15.	Kocher's " " short, straight		10
16.	" " " long, straight		10
17.	" " " " curved		10
18.	Bozeman's Uterine Packing Forceps		2
19.	Foster Sponge Holding Forceps		2
20.	Mathieu's Needle Holder 19 cm		2
21.	" " " 21 cm		2
22.	Heger's Needle Holder 21 cm		2
23.	Mayo Scissors, curved, 14 cm		1
24.	Siz's Uterine Scissors, 20 cm		1
25.	" " " 23 cm		1
26.	" " " 18 cm		1
27.	Richter's Clip Remover		1

28.	Deschamps's Aneurism Needle	1
29.	Cleveland's Ligature Carrier	1
30.	Tissue Forceps, 15 cm w/o teeth	2
31.	" " " w/ teeth	2
32.	Uterine Tissue Forceps w/o teeth	2
33.	" " " w/ teeth	2
34.	Backhou's Towel Forceps, 13 cm	8
35.	S. Type Catheter	1
36.	Cusco's Vaginal Speculum	1
37.	Pus Basin	1
38.	Umbilical Scissors	1
39.	Kuestoner's Uterine Forceps	1
40.	Akagi's Uterine Forceps	1
41.	Saegon's Uterine Forceps	1
42.	Segon's Tumor Screws	1
43.	Azuma's Uterine Cervical Dilator No.1 - 20	1
44.	F-type Uterine Cervical Dilutor	1
45.	F-type Operating Forceps, A type	4
46.	" " " B type	4
47.	" " " C type	2
48.	Muzen's Uterine Tenaculum Forceps, two prong	2
49.	Instrument Container	1

14.	Hysterectomy Set (Abdominal Operation)	
1.	Rectal Retractor	1
2.	Ureteral Retractor	1
3.	Vaginal Scissor, Heavly curved	1
4.	Operating Scissor, curved	1
5.	Bladder Scissor	1
6.	Abdominal Retractor	1
7.	Bladder Retractor	1
8.	Urethral Rasping Forceps Anterior	1
9.	Ando's Uterine Forceps	1
10.	Pelvis Grasping Forceps, Heavly curved	1
11.	- ditto -, but curved with tissue	1
12.	- ditto -, but curved without tissue	1
13.	Akagi's Uterine Forceps	1
14.	Deschamps's Aneurism Needle, Right & Left	1
15.	Needle Holder for Deep Region	1
16.	S-type Ligature Carriers for Deep Region	1
17.	Azuma's Abdominal Retractor, large	1
18.	" " " medium	1
19.	" " " small	1
20.	Fritsch's Retractor, 60 m/m	1
21.	Sranger's Retractor, 38 m/m	1
22.	" " 30 m/m	1
23.	Mikulicz's Peritoneum Forceps	10
24.	Alexunder's Operating Retractor, Flat	2
25.	Kocher's Hemostatic Forceps, short, straight	10
26.	" " " long, "	10
27.	" " " " , curved	10

28.	Kocher's Hemostatic Forceps, short, straight	10
29.	" " " long, "	10
30.	" " " " curved	10
31.	Foster Sponge Holding Forceps	4
32.	M. M. Type, Hysterectomy Forceps Model 1	2
33.	" " " " 2	2
34.	" " " " 3	2
35.	Musson Diamond Jaw Needle Holder 19 cm	2
36.	" " " " " 21 cm	2
37.	Sim's Uterine Scissors, 18 cm, straight	2
38.	" " " " curved	2
39.	" " " 20 cm, straight	2
40.	" " " " curved	2
41.	Operating Scissors 14 cm	2
42.	Muzeu's Uterine Tenaculum Forceps, two prong	2
43.	Uterine Tissue Forceps, 15 cm, w/teeth	2
44.	" " " " w/o "	2
45.	" " " 23 cm, w/ "	2
46.	" " " " w/o "	2
47.	Backhou's Towel Forceps, 13 cm, Box-lock	8
48.	S. Type Cutheter	1
49.	M. M. Type Hysterectomy Scissors	1
50.	Segon's Tumor Screws	1
51.	Instruments Container	1
52.	Takayama's Uterine Reverser	1
53.	Doyen's Intestinal Forceps, straight	1
54.	" " " curved	1

Hysterectomy Set (Vaginal Operation)

1.	Ando's Vaginal Speculum with Weight	1
2.	ATOM Cusco's Vaginal Speculum, medium	1
3.	Simon's Vaginal Speculum	1
4.	Kinoshita's Vaginal Retractor	2
5.		1
6.	Muzeu's Uterine Tenaculum Forceps, Two Prong	2
7.	Tsukahara's Vaginal Forceps	2
8.	Segon's Uterine Forceps 2	1
9.	" " " 3	1
10.	Deschamps's Aneurism Needle	1
11.	S-type Ligature Carrier	1
12.	M. M Type Hysterectomy Forceps I type	2
13.	" " " II type	2
14.	Kocher's Hemostatic Forceps, short, straight	10
15.	" " " long, "	5
16.	" " " long, curved	5
17.	" " " short, curved	10
18.	Operating Scissors, 14 cm	1
19.	Sim's Uterine Scissors, 18 cm	1
20.	" " " 23 cm	1
21.	S type Cutheter	1
22.	Mathieu Needle Holder, Deep Retract Catch	2
23.	Mathieu Gynecological Needle Holder	2
24.	Tissue Forceps 13 cm without teeth	2
25.	" " " with teeth	2
26.	Uterine Tissue Forceps without teeth	2
27.	" " " with teeth	2

28.	Kinoshita's Vaginal Retractor, large	1
29.	Backhou's Towel Forceps, 13 cm, Box-lock	10
30.	Uterine Probe	1
31.	Instrument Container	1

15. Curettage and Dilatation Set

1. S Type Cutheter	1
2. Sakurai's Vaginal Speculum	1
3. Uterine Tissue Forceps with knob	1
4. Uterine Applicator	1
5. Mæzeu's Uterine Tenaculum Forceps, two prong, Box-lock	1
6. Uterine Probe	1
7. J.O.M.W.'s Type Uterine Cervical Dilators, No. 1 - 20	1
8. J.O.M.W. Type Placenta Forceps, 6 m/m 9 m/m 12 m/m	3
9. Pus Basin	1
10. J.O.M.W. Type Uterine Curettes, 6 m/m 9 m/m 12 m/m	3
11. Bozeman's Uterine Irrigating Cutheter, middle	1
12. Bozeman's Uterine Packing Forceps	1
13. Instruments Container	1

I. ENT

1. E.N.T. Diagnostic Instruments

1. Head Mirror, 8.2 cm dia.	2 sets
2. Ear Speculum, for child, NO.1-3	5 sets
3. - do - Okayama Univ. type, NO.1-4	5 sets
4. Pack for Ear Speculum for 9 pcs.	1 pc.
5. Bruening's Aural Magnifire	1 set
6. Eustatian Catheters, Lucae's, NO.0-3	2 sets
7. - do - Saito's, NO.0-3	3 sets
8. Poliztel's Rubber Air Bag	1 pc.
9. Lucae's Double Air Bag	1 pc.
10. Lucae's Ear Applicator	100 pcs.
11. Lucae's Ear perforation Knife, L.M.S.	2 sets
12. Ear Hook, bayonet type	2 pcs.
13. Lucae's Ear Forceps, No tooth type	10 pcs.
14. Okonogi's Ear Forceps "A"	1 pc.
15. - do - "B"	1 pc.
16. Hartmenn's Ear Forceps, with serrated jaws	1 pc.
17. - do - with mouth teeth	1 pc.
18. - do - with curette jaws	1 pc.
19. Middle Ear drainge, Waniouchi's, with needle	1 set
20. Powder Blower, Kubo's	1 pc.
21. Ear syringe	1 pc.
22. Tuning Fork, Fis-4	1 pc.
23. - do - "C", with clamp	1 pc.
24. Nasal Speculum, Hartmenn's, L.M.S.	60 pcs.
25. - do - Septum Specula, middle type	1 pc.
26. - do - - do - long type	1 pc.

27.	Nasal Cotton Applicator, Lucae's	200 pcs.
28.	Nasal Forceps, Lucae's, No tooth	20 pcs.
29.	Antrum Bulb syringe	1 set
30.	Nasal Snare, Kraus's	2 pcs.
31.	Steel wire for snare	1 set
32.	Nasal Forceps, serrated jaws, Heymann's, L,M,S	2 sets
33.	- do - cupped jaws, Heymann's L,M,S	2 sets
34.	Turbinate Scissors, Heymann's	1 pc.
35.	Middle Turbinate Scissors, Beckmann's	1 pc.
36.	Nasal Cutting Forceps, Gruenwald's,	1 pc.
37.	Nasal Forceps, Gruenwald's,	2 pcs.
38.	Schmidt's Antrum trocar, set in case	3 sets
39.	Mucosa Knife, of Maxillary, Kyoto, Univ.	2 pcs.
40.	Nasal Forceps, Gruenwald's, "A" cupped jaws	1 pc.
41.	- do - "B" cutting	1 pc.
42.	Ethmoid Forceps, Nishihata's, "C"	1 pc.
43.	- do - "D"	1 pc.
44.	- do - "E"	1 pc.
45.	Ethmoid Forceps	2 pcs.
46.	Mouth Gage, Whitehead-Jenings, adult	1 pc.
47.	- do - child	1 pc.
48.	Tongue Depressor, Fraenkel's, for adult	10 pcs.
49.	- do - for child	5 pcs.
50.	- do - Czermack's	10 pcs.
51.	Tongue Forceps, Houze's	1 pc.
52.	Laryngeal Applicator, Hartmann's	20 pcs.
53.	Palate Retractor, Kubo's	1 pc.
54.	Laryngeal Applicator, Pelteson's	10 pcs.

55.	Laryngeal Mirror, NO.00-6	5 sets
56.	- do - Handle only	10 pcs.
57.	Laryngeal Syringe, Kuzume's	3 sets
58.	Epiglottis Holder, with handle, Lublinski's	1 set
59.	Laryngeal Forceps, Karl-Reiner's	1 pc.
60.	Emergency Tracheatometer set, Saitoh's	1 set

2. Audiometer (Bekesy type)

All Transistorized Precision Automatic Recording

- Specifications -

Test signal for air conduction:

Frequency range:	100 - 10,000 Hz, continuously variable in logarithmic scale
Frequency control:	Automatic scanning and manual control
Speed of automatic scanning:	Approx. 10 and 20 min for full frequency range (with 50 Hz power source)
Level range:	10 - 100 db, continuously variable (reference level of hearing loss according to ISO R-389)
Level control:	Automatic and manual
Level shifting rate in automatic control:	2 db/s and 1 db/s (with 50 Hz power source)
Tone interruption:	Automatic and manual
Automatic interrupting frequency:	0.5, 1, 2, 3, 4 Hz
Dissimulation investigator:	Manual operation decreasing tone level by 10 db
Test signal for bone conduction:	250-4,000 Hz -10-60 db
Masking noise:	
Weighted noise:	Calibrated in effective masking level
White noise:	Calibrated in SPL

Signal input terminal (for speech audiometry): Input impedance 50 K Ω
Input voltage 1 V

Recording pen: Ball tip pen
Recording chart: About 100 audiograms per roll
Dimensions of audiogram: 110 x 240 m/m
Power supply: 100 V (regular) 50-60 Hz approx. 80 VA
Dimension and weight: Approx. (W) 15" x (H) 17 4/3" x (D) 10",
Approx. 55 lbs

Accessories:

Air conduction earphone	2
Headband for air conduction earphone	1
Bone conductor	1
Headband for bone conductor	1
Patient signal switch	1
Level shift switch	1
Power cord	1
Vinyl cover for apparatus	1
Recording chart	2 roll
Recording pen	6

3. Nystagmometer

- Specifications -

Electronystagmograph (4 CH)

1. Item Electronystagmograph (4 ch)
2. General

The records eye movement and speed patterns, providing a means of examining the frontal balancing function quantitatively. Four directly coupled channels are featured, permitting simultaneous recording of horizontal and vertical movement in both eyes and

speed of movement. The patient's eyes may be open or closed. Information obtained is valuable in analyses of nystagmus.

This instrument is suited to both research and medical examination, as it is equipped with corresponding functions. Only semiconductor active elements have been used, minimizing dimensions and weight and guaranteeing stable operation.

3. Structure

The consists of amplifier and recorder stages. It is housed in a metal case equipped with casters. A mobile electrode cable box is included.

The amplifier stage has separate plug-in units for each channel. This arrangement accomodates standard units for nystagmograph recording, while at the same time providing a means for ready substitution of the units with cutom made types. Other units available include the nystagmic frequency recording unit, the eye shift angle recording unit, and automatic voltage compensated nystagmus recording unit.

4. Technical data

Recorder	Linear delineation with ink
Number of recording elements	Four
Maximum recording width	±30mm (same for all channels)
Maximum recording sensitivity	p-p in respect to electrode input voltage of 10 μ V Recording amplitude exceeding 10 mm p-p in respect to external input of 1 mV
Number of electrode input terminals	Four channels: Two for DC recording Two for AC recording

Voltage dividing compensation	Manual, with potentiometer
Frequency response	<ul style="list-style-type: none"> a. In respect to recording amplitude output from electrode input or external input with the filter off, a DC time constant, and amplitude of 10 mm p-p: Deviation of no more than $\pm 10\%$ from DC to 30 Hz b. In respect to external output from electrode input or external input with the filter off and a DC time constant: Deviation of no more than $\pm 10\%$ from DC to 1.5 kHz.
Filter	There are three high cut-off levels plus off. Attenuation is 10 % at 40, 20 and 10 Hz. Hum at 50 or 60 Hz is rejected.
Coupling time constant of main amplifier	DC (direct), 3, 1, 0.1, 0.03, 0.01 sec.
Maximum noise level	<ul style="list-style-type: none"> a. In respect to pen recording amplitude output from electrode input or external input with the filter off: No more than 5 μV p-p in terms of the input. b. In respect to external output from electrode input or external input with the filter off: No more than 50 μV p-p in terms of input.
Discriminating ratio from electrode input	More than 80 dB down (attenuation at in-phase input of 1/10,000)

Instant stop device	Manual switch for individual system and coupled operation
Gain control	Coarse: Switchable at 1000 : 1 in ten steps, with 1-2-5-10 system Fine: Continuously variable at 3 : 1
Sensitivity calibrator	Square wave of 10, 20, 50, 100, 200 and 500 μV
Speed pattern calibrator	Triangular wave with 2-sec period
Electrode resistance measurement	0 - 200k Ω (measurement possible from minimum of 1 k Ω).
Time markers	One-second increments at top edge of paper
Recording speeds	1, 2, 5, 10, 20, 50, 100 mm/sec. (selected by pushbutton switches)
Recording paper	Roll (50 m) with linear graduations or folding stack (100 m) with equidistant increments
Input impedance	Electrode input impedance: 5 M Ω - GND - 5 M Ω (balanced) External input impedance: 1 M Ω (unbalanced)
External output	Maximum 10 V p-p (unbalanced) Load resistance: More than 10 k Ω Amplification in respect to electrode input: Standard maximum of 80 dB
Stability in respect to line voltage	No shift in the base line under abrupt line voltage change of 100 V $\pm 10\%$

Line power

85 - 115 VAC, 50/60 Hz, 100 VA

Note that the line frequency must be specified as 50 or 60 Hz

Dimensions

Refer to figure

Weight

Approx. 60 kg

Note that these specifications are subject to change without notice.

4. E.N.T. Treatment Chair

Spec: Oil Pump driven type,
Soft Chair Model

5. Laryngoscope (adult)

Spec: Mac-Intosh type
Stainless Steel, with 5 Blades

handle	28.5 ϕ m/m x 121 m/m		1 pc.
blade	135 m/m	(LL)	1 pc.
blade	110 m/m	(L)	1 pc.
blade	95 m/m	(M)	1 pc.
blade	80 m/m	(S)	1 pc.
blade	65 m/m	(SS)	1 pc.

J. Ophthalmology

1. Dropping Buttle Set
2. Eye Bath Basin
3. Ophthalmic Unit (New Deluxe Refracting Unit, Motorized Chair and Stand)

- Specifications -

Chair

Driving unit	Perfectly sealed motor-pump system for 100V, 110V, 120V, 200V, 220V or 240V AC
Seat height	590-790mm
Dimensions	690mm width x 840mm depth x 1,335mm height (including headrest)
Base	560mm width x 560mm depth
Seat	490mm width x 460mm depth
Net weight	102 kg
Armrest	Swing-up type
Headrest	Reclining type available on request

Stand

Illumination lamp	Free arm type, 100V
Sight tester arm	Counter balance type
Tray arm	Horizontally swinging type with tray for Slit Lamp and Ophthalmometer
Control panel	Two (2) terminals, one (1) channel switching
Dimensions	
Base	600mm width x 550mm depth
Unit	915mm height
Pole	1,600mm height
Net weight	85 kg



4. Trial Lens Set (Modac Trial Lenses Set with Standing Cabinet, 35 Pairs)

Contents of 35 pair Modac Trial Lens set with Plastic Lens Frames

Spheres: 35 pairs + and -, 1 pair each of the following powers

0.12 0.25 0.37 0.50 0.62 0.75 0.87 1.00
 1.12 1.25 1.37 1.50 1.75 2.00 2.25 2.50
 2.75 3.00 3.25 3.50 4.00 4.50 5.00 5.50
 6.00 6.50 7.00 8.00 9.00 10.00 11.00
 12.00 13.00 16.00 20.00

Cylinders: 16 pairs + and -, 1 pair each of following powers

0.25 0.50 0.75 1.00 1.25 1.50 1.75 2.00
 2.25 2.50 3.00 3.50 4.00 4.50 5.00 6.00

Prisms: 12 pieces, 2 each of 1/2, 1, 2, 3 prism diopters

1 each of 4, 5, 6, 8 prism diopters

Accessories

Colored discs: 6 pieces, 2 each of Red, Blue, Green

Pinhole discs: 3 pieces of 0.5, 1, 1.5

Slit discs: 2 pieces of 0.5, 1

Blank disc: 1 piece

Dimensions: 530 x 420 x 60mm

Net Weight: 5 kg

Lense diameter: 28mm (1 1/10")

Plastic ring diameter: 38mm (1 1/2")

Does not include trial frame No. 2115

Contents of 35 pair Modac Trial Lens Set Standing Cabinet

- Contents same as 35 pair Modac Trial Lens Set but in Standing Cabinet -

Dimensions: 560 x 1020 x 460mm

Net Weight: 27 kg

5. Slit Lamp

- Specifications -

Binocular Microscope

Type	Stereoscopic direct viewing erect image
Objectives	1.2X and 1.8X (turret rotation 90°)
Eyepieces	8X and 10X
Total magnifications	9.6X, 12X, 14.4X, 18X
Illumination Slit	Rotatable 180°, incident light angle variable, built-in cobalt blue and green filters
Focussing Distance	100mm
Interpupillary distance range	47mm to 70mm
Horizontal adjustment range	
Lateral	90mm
Front to rear	35mm
Height adjustment range	23mm
Chin rest height adjustment range	78mm
Illumination lamp	50W, 10V, 5A
Line voltages	100V, 120V, 220V switch selectable
Net weight	19kg

Accessories

Dust cover	1 piece
Chin rest tissue	500 sheets
Replacement illumination lamps	2 pieces

Accessories

Test bar	1 piece
Eyepiece	15X

6. Refractometer

Spec;	Sphere of measurement:	Brix 0 ~ 20 %
	Minimum scale:	Brix 0.1 %
	Thermometer:	5°C ~ 40°C
	Dimension:	16 x 10 x 21 cm
	Weight:	1,100 g

7. Perimeter

- Specifications -

Power source	100, 110, 220, or 240V AC, 50 or 60Hz (changeover switch)
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Target luminosity

Table for available luminosity in apostilb

Filters	0.4	0.3	0.2	0.1	0
5.0	0.004	0.005	0.0063	0.008	0.01
4.5					
4.0	1	1	1	1	1
3.5					
3.0	0.4	0.5	0.63	0.8	1
2.5	1.2	1.6	2.0	2.5	3.15
2.0	4.0	5.0	6.3	8	10
1.5	12.5	16	20	25	31.5
1.0	40	50	63	80	100
0.5	125	160	200	250	315
0	400	500	630	800	1000

Target sizes

1/16, 1/4, 1, 4, 16, 64mm²

Background luminosity

31.5 asb, adjustable

Shutter device

Manual shutter device is equipped for detecting Bjerrum scotoma and other scotomata

Dimensions

Width 540mm (22") Depth 610mm (24")
Height 929mm (36")

Net weight

Main body 50 kg Table 30 kg

Table configurations

Hand operated instrument table ES-013 (standard), Motor table ES-015 as pictured available on request

Accessories

Spare lamps

2 pieces of 6V Lamp for test target & background
1 piece of 6W Fluorescent Lamp for recording paper

Chinrest paper 1 bundle (100 sheets)
 Corrective lens holder 1 piece
 Luminance meter 1 piece

8. Retinoscope

Used with electric cord and handle

Contents: NR head, electric cord and handle, R1-4V spare bulb,
 +2D presbyopic lens

Bulb: 4V, 3.6W

9. Test Chart

Spec; This instrument provides many advantages as compared with
 a conventional sight chart.

May be used at a distance of 3 or 5 meters.

Uniform and precise projected image brightness.

Each character or line of characters may be individual-
 ly projected onto the screen.

The operation is simple, providing an efficient and
 prestigious test.

No. 1025 Floor type
 1025-T Table type

Dimensions	1025 Floor type	1025-T Table type
Projector	470 x 330 x 120mm	
Height	970mm	410mm
Base diameter	320mm	210mm
Screen diameter	340mm	
Net weight	23kg	15kg

Accessories

Dust cover: 1 piece
Bulbs: 2 pieces
Slides: 2 pieces, 1 each of alphabet and landol
Red & Green filter: 1 piece

Slides: Snellen, Number and Children

10. Eye Test Chart (Ishihara Test)

38-plate (complete) Edition

11. Portable Transister Tonometer

The Tonometer offers many special performance features which allow the examiner to take measurements faster, easier and more accurately than with any other type of instrument, including on all solid-state, self-regulating integrated circuit design, etc.

Accessories: Weights (7.5, 10 and 15g)
Dry battery (006P transistor radio type)

Dimensions: 225 x 170 x 80mm

Weight: 355g, with accessories and case 745g

12. Fundus Camera

- Specifications -

Camera

Photographic lens system 11 elements in 7 groups (includes aspherical lens)
Working distance 41 mm
Fundus picture area 7 papillae
Photographic magnification 1.7X

Observation magnification	11.9X
Ocular	15° inclined, fixed Diopter range: ±6D
Diopter compensation for examined eye	4 stages, from -33D to +36D -33 ~ -21D -23 ~ - 8D -10 ~ +10D + 8 ~ +36D
Light source:	
For observation	100V 75W tungsten lamp
For photographing	300W/s xenon flash lamp (changeable in 5 stages)
Built-in filters:	
For observation	Monochrome fluoresceine: Fuji BPB-45 Color fluoresceine: Kodak W32 Contrast: Kodak W56
For photographing	Monochrome fluoresceine: Kodak W15 Color fluoresceine: Kodak W56
* Interference filter may be available optionally on order.	
Shutter	Magnetic mirror shutter, quick return
Shutter button	Located on top of joystick lever
Camera back	Interchangeable camera back, standard back of manual winding for 35 mm roll film
Standard Stand	
Camera support:	
Range of vertical movement	30mm
Lateral swing	30° each

Base:

Range of longitudinal movement 60mm
Range of laterall movement 120mm

Chin rest:

Range of vertical movement More than 60mm
(longitudinal movement
possible)

Standard fixation lamp Red photo-diode pilot lamp

Standard power source

Input voltage, frequency AC 100/117/220/240V, 60/50 Hz

Output

Illumination lamp
Electronic flash
Camera operation
Fixation pilot lamp

Dimensions

Camera with standard stand 644 (L) x 572 (H) x 280 (W) mm

Power source 330 (L) x 215 (H) x 220 (W) mm

Weight

Camera with stand 20 kg

Power source 14 kg

13. Hand Ophthalmoscope

* Used with battery handle

* Contents: Ophthalmoscope B head, Battery handle, Spare
bulb (1pc.)

* Bulb: 3V, 1.5W

* Weight: 51 grm.

* Case size: 24 x 7 x 5 cm

K. Pediatrics

1. Baby Weighing Scale
2. Neonatal Resuscitator
3. Feeding Tubes
4. Incubator

Standard type, manual control (inside temperature electronic control)
Electronic time-proportional control system, tolerance within 1/4 degree C

Assembly: Main body, cabinet stand, psychrometer, mattress platform, mattress & X-ray cassette case

Accessories: Cap, syringe & dust prevention cover

Spares: Vinyl cover for arm port and F-3 type filter

External dimension: Main body (99L x 58W x 59cmH)
Cabinet stand (87L x 44W x 69cmH)
Mattress platform (64.5L x 34.5W)

5. Infusion Pump
6. Gastric Tube
7. Electric Suction Unit

Refer to A.8.

8. Laryngoscope (for Infant)

Spec; Foregger Type
Stainless Steel with 3 Blades

handle	28.5 ϕ m/m x 121 m/m	1 pc.
blade	115 m/m	1 pc.
blade	75 m/m	1 pc.
blade	53.5 m/m	1 pc.

Urology

1. Urologic Table

(1) Dimensions: 50W x 120 - 160L cm

(2) Height Min. : 700 m/m

Max. : 1,080 m/m

(3) Trendelenburg Movement 0 - 45°

(4) Power Source: AC 220V, 300W

2. Cystoscope Adult

" Young

" Infant

Accessories

Cleaner

Photography Flash & Cold Light Unit

Light Unit

3. Urethral Catheter Set

Size: Fr 8 - 20

1 set : 13

4. Urethral Bougies

Size: Fr 8 - 20

1 set : 13

M. Internal Medicine

1. ICU (4 ch)
2. Phonocardiograph
3. Defibrillator
4. Ultrasound Echocardiograph
5. ECG (1 ch)
6. Vectorcardiograph
7. Gastrofiberscope
8. Duodenofiberscope
9. Colonofiberiscope
10. Laparoscope (A set)
11. Bronchofiberscope
12. Respiratory Function Test Unit
13. Lumbal Puncture Instrument Set
14. High Intensity Cold Light Supply
15. Photographic Apparatus
16. Spirograph
17. Biopsy Set
18. Punction Set

1. I.C.U. Patient Monitor

ECG 'Heart rate 'Resp. rate 'Temp. '

Blood pressure monitor

°ECG and blood pressure displayed on CRT.

°Heart rate, Respiratory rate, Temperature, and Blood pressure displayed on each digital meter.

- Specifications -

°Heartmemory

Number of channels: 2-channels (1 ECG & 1 Blood pressure wave)

Brightness control: Automatically controls the brightness of traces in accordance with the ambient lighting.

Resolution: 8 bits

Sampling frequency: 256Hz

Storage capacity: 8 bits x 1K word per 1 ch.

°Digital pulse indicator

This provides digital display of heart rate in conjunction with a Heartmemory.

Indicating range: 30 to 240 beats/min

Alarm range: High limit: 100 to 220 beats/min

Low limit : 30 to 140 beats/min

°Digital respiratory rate meter

This provides digital display of respiratory rate in conjunction with a Heartmemory.

Indicating range: 5 to 100 breaths/min

Alarm range: High limit: 30 to 90 breaths/min

Low limit: 5 to 60 breaths/min

°Digital temperature meter

This provides digital display of temperature in conjunction with a Heartmemory and temp. pick-up.

Indicating range: 22.0 to 42.0°C

°Direct blood pressure meter

This displays arterial pressure or venous pressure in conjunction with a pressure transducer.

Intracardiac pressure measurement is also available with 40 mmHg sensitivity.

This unit uses an automatic balancing method for ease of operation., and the input circuit is isolated to provide maximum safety to patient.

Calsses of blood pressure values:

Systolic pressure, diastolic pressure, mean pressure and venous pressure.

Alarm range: High limit: 80 to 220mmHg/mmH₂O
Low limit : -20 to 120mmHg/mmH₂O

2. Phonocardiograph

- Specifications -

This device is normally used in examining the function of cardiac muscle system and valve.

Recording Method: 3 channels Heatstylus recording, chart 145mm x 30m roll, casset loading

Recording Speed: Chart speed, 10, 25, 50, 100mm/sec.

Power Requirement: Any Voltage specified of 50 or 60 HZ

ECG UNIT: Input Impedence Greater than 25H ohms
 Common Mode Rejection Greater than 120 dB
 Frequency Response Within - 3 dB at 0.05 - 90HZ
 Time Constant 3.3sec

PCG UNIT: Input Impedence Greater than 2H ohms

Filter Characteristics	fc(Hz)	dB/oct	Gain (dB)
(L)	50	18	-32
(M)	160	24	-16
(H)	315	24	0
(E)	315	12	-16

Modulation Envelope modulation (Filter ; H,M)

Modulation Frequency 90 HZ \pm 5HZ

Sensitivity 15mm (p-p)/100 V

PULSE UNIT: Input Impedence 20 Megohms or greater

Common Mode Rejection Greater than 60 dB

Sensitivity 10mm/6mV

3. Defibrillator

- Specifications -

This device is normally used to provide emergency treatment of disorders of ventricular or arterial fibrillation, arrhythmia and arrest.

It is the well-designed cardiac monitoring resuscitation system in terms of safety.

DC Defibrillator

Output Energy:	Adjustable 0 to 400 Joules stored energy
Recharging Time:	3 Sec. (time constant)
Discharging Time:	2.4 ms
Synchronizing Time:	Can be optionally set to ON and OFF

ECG Monitor

Cathode Ray Tube:	5.5" persistent image
Input Impedance:	Greater than $5M\Omega \times 2$
Sensitivity:	Greater than 30mm/mV
Lead Selection:	I, II, III, aVR, aVL, aVF, V
Heart Rate Indication:	30 - 220 beats/mm
Sweep Speed:	25 and 50 mm/sec

Automatic Recorder

Sensitivity Selection:	5, 10, 20 mm/mV
Chart Speed:	25 and 50 mm/sec
Recording System:	Heat stylus direct writing on 50 mm wide recording paper

4. Ultrasound Echocardiograph

This device is intended to observe, photograph and record physiological parameters such as ECG, PCG and PLG with echocardiogram by displaying the movements of the anterior and posterior walls of the heart on the screen, releasing ultrasonic pulses from the thorax to the heart.

- Specifications -

Mode of operation:	M mode and B mode
Echogram:	Frequency range ----- 1-5MHz
	Magnifications ----- 0.5, 0.75, 1 (3 step switchable)
ECG, PCG, PULSE:	The built-in amplifiers
Probe:	2.25MHz, 10mm
Power supply frequency range:	50 or 60 Hz
Power supply:	

5. E.C.G (1 ch)

- Specifications -

This device is used to examine the function of the cardiac muscular system with the variation of the potential difference occurred whenever the cardiac muscles move.

Especially, this device is designed in safety so as not to expose patients to hazardous situations.

The distinguished features are as follows.

- (1) Portable, 4way operation, A.C. line, Rechargeable battery, Flashlight "D" cell, Car battery.
- (2) Patient safety Floating Isolation Input.
- (3) Defibrillator Protection.
- (4) Meets A.H.A. Standards.
- (5) Built in A.C. notch filter against 50/60 HZ interference, External D.C. input and 1 V output connection terminals.
- (6) Simple operation, no warmup time required.

- Specifications -

Input Impedence:	Greater than 50Megohms
Recording Method:	Heat stylus recording, chart 50 ^{mm} x 20 ^{mm} or 30 ^{mm} roll, casset loading
Sensitivity:	1/2, 1 & 2 ±2 %
Standardization:	Calibration signal 1 mV
Amplitude Deflection:	Greater than ±20 mm
Chart Speeds:	25 or 50 mm/sec
Lead Selector:	12 lead STD, I, II, III, AVR, AVL, AVF. V1, V2, V3, V4, V5, V6 Automatic base line reset between lead positions
Leakage Current:	Less than 10 microamperes

Power Requirement:

100 - 130/200 - 250 Volts, 50 or
60 HZ

Battery Operation:

Rechargeable "DRYFIT" type sealed
unit

Disposable flashlight type "D" cell

6. Vectorcardiograph

- Specifications -

This device is a vector cardiograph with a memory circuit which permits you to monitor vector or scalar ECG as a stationary image on the 8" rectangular CRT scope.

A permanent record can be obtained either by photographing a trace with a camera as in case of a conventional vector cardiograph or by making an X-Y recorder write directly the trace in the same size as monitored on the scope.

- Specifications -

° Vector Cardiograph with Memory Circuit (with Trolley)

Leads: Frank (standard)

Kimura, Grishman, McFee

EXT (option)

Loop selection:

1) Automatic Changeover:

Vector ECG: ALL, F, S, H

Scalar ECG: ALL, X, Y, Z

2) Manual selection of an optional part of ECG of a beat

Memory:

Memory time: approx. 1.3 sec.

Capacity: 10-bit 3k words

Sampling frequency: 800Hz

Noises:

Lower than 10 μ Vp-p at lower than 100Hz (referred to input)

Discrimination ratio:

Better than 60dB

Sensitivity changeover:

0.5, 1, 2, 3, 4, 6, 8, 16, 32cm/mV

Non-linearity:

Within 5% on the effective CRT screen area

Within 5% \pm 16mm on chart paper

Time constant: 3.2 sec
Frequency response: Within +3 - -6% at 250Hz (preamp output)
Calibration voltage: 1mV and 200 μ V
Sweep speeds: 2.5, 5, 10, 25 and 50cm/s
Timer intervals: 1.25, 2.5, 5 and 10m/s
Filters: High-cut: 30 and 100Hz
Hum: 50 and 60Hz
External input: 1cm/V
Output: 1v/mV and continuously variable

- 1) Vector Cardiograph with Memory Circuit
- 2) X-Y Recorder for Vector Cardiograph

Effective writing area: 38 x 25 cm
Writing mode: Ink writing
Sensitivity: 1cm/10mV
Non-linearity: $\pm 0.15\%/fs$
Resolution: 0.1%/fs
Discrimination ratio: 100dB at 50/60Hz

7. Gastrofiberscope with Standard Accessories

Main Specifications

Angle of view field :	65° (Side viewing)
Focusing :	Fixed
Range of observation :	10mm - 150mm
Bending angle :	200° (100° up and 100° down) 100° (50° right and 50° left)
Diameter of insertion tube :	11.5mm
Working length :	1030mm

Field of application

Stomach

Main performance

Observation, Photography, Cytology and Biopsy

Gross Weight 8 kgs

Duodenofiberscope with Standard Accessories

Main specifications

Angle of view field :	64° (Side viewing)
Depth of field :	5 - 60mm
Focusing :	Fixed
Bending angle :	250° (130° up and 120° down) 180° (90° right and 90° left)
Diameter of Insertion tube :	10.5mm
Working length :	1,370mm

Field of application

(Esophagus), Stomach, and Duodenum

Main performance

Observation, Photography, Cytology, Biopsy, and Endoscopic Retrograde,
Cholangio-Pancreatography

Gross Weight 8 kgs

Colonofiberscope with Standard Accessories

Main specifications

Angle of view field :	85° (Forward viewing)
Depth of field :	10 - 100mm
Focusing :	Fixed
Bending angle :	340° (170° up and 170° down) 140° (70° right and 70° left)
Diameter of insertion tube :	16.3mm
Working Length :	1,900mm
Biopsy Channels :	Two channels

Field of application

Sigmoid, Descending Colon, Transverse Colon, Ascending Colon,
and Ileo-Cecal Part

Main performance

Observation, Photography, Cytology, Biopsy, and Polypectomy

Gross Weight 8 kgs

10. Rigid Operating Laparoscope

components

Telescope (Forward-oblique viewing) bent, with probe channel	1 pc.
Trocar 11mm ϕ , with valve and conical tip	1 pc.
Telescope 45°, 10mm ϕ	1 pc.
Rigid biopsy forceps with spoon jaws and central pin for more exact grasping, insulated	1 pc.
Exploration probe	1 pc.
Verrest Cannula	1 pc.
Menghini cannula for liver puncture with trocar and inner cannula	1 pc.
Silvermann liver biopsy cannula with trocar and split cannula	1 pc.
Light guide 3.5mm ϕ 180cm	1 pc.
Carrying case	1 pc.
Gross Weight	4 kgs



2-Channel Bronchofiberscope with Standard Accessories

Main specifications

Angle of view field :	45° (Forward viewing)
Depth of field :	3 - 50mm
Focusing :	Fixed
Bending angle :	190° (130° down and 60° up)
Diameter of insertion tube :	6mm
Working length	595mm
Biopsy channels :	Two channels

Field of application

Bronchus

Main performance

Observation, Photography, Cytology, Biopsy, Selective Bronchogram, and Removal of foreign bodies

Gross Weight 8 kgs

12. Respiratory Function Test Unit

- Specification -

Bell Factor	50
Bell Capacity	10 l
Recording rate	Low ----- 30mm/min Middle -----150mm/min High ----- 30mm/sec
Blower	2 Speed Selectable Low ----- 55l/min High -----110l/min
Gas Entrance	3 entrances
Ventilo Graph	1/10
Dimensions	555 x 425 x 870 mm
Weight	23 kg
Parameters	VC IRV TV ERV FVC FEV1.0 FEV1.0% MMF MVV %MVV TV MV RR O ₂ consumption BMR
Accessory	100 rolls Recording popper 400 ea Mouth piace 10 ea Nose clip 5 set (10 ea) Breathing tube 5 set Umeda's roller 2 set BMR; O ₂ Scale 1 ea Gas cylider 500 liters of oxygen

13. Lumbar Puncture Instrument Set

Contents:	Needle (adult)	1 set
	Glass stick	3 pcs.
	Blood meter	1 pc.
	Test tube	1 pc.
	Cylinder	1 pc.
	Refractometer	1 pc.

14. High Intensity Cold Light Supply with built-in air pump and automatic exposure system

Main specifications

Light Source

Lamp	Xenon short-arc lamp (ozon-free) 300W
Lamp life	Approx. 500 hours
Cooling	Forced-air cooling
Ballast	Transistor control system

Observation

Adjustment of light intensity	Light-path diaphragm control method, fully opened for exposure; plug lamp current control
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Auto Exposure (STILL)

Method	Exposure time control via open/close movement of light supply shutter
Exposure time	1/4 - 1/100 sec.
Exposure change	Exposure decreases from INDEX 1 to 5 with - 1EV per step

Auto Exposure (CINE)

Method	Servodiaphragm plus lamp current control
Exposure change	Exposure decreases from INDEX 1 to 5 with - 1EV per step

Air Feeding

Pump	Electromagnetic vibrator pump
Max. pressure	0.30 kg/cm ²
Standard flow	At 2,000 cc/min: over 0.18 kg/cm ² pressure
Control	Via air feeding switch

Gross Weight 5 kgs

15. Photographic Apparatus

Photographic Apparatus for Endoscopy with Adaptor

* Standard Component

35mm Single Lens Reflex Camera (body only) 1 pc.
Adaptor 1 pc.
Focusing Screen 1 pc.

* Specifications (Camera)

Camera Type: 35mm Single Lens Reflex with focal plane shutter
Film Format: 25mm x 36mm
Lens Mount: Bayonet type
Shutter: Focal plane shutter with speeds from 1 to 1/1000 second
Film Speed Range: ASA 25-1600
View Winder: Pentaprism type wider-vision finder
Focusing Screens: Interchangeable
Flash Contracts: FP.X switch type contract
Dimension & Weight: 136mm x 83mm x 50mm, 510 grams

16. Spirograph

Spec; Portable, waterless, pulmonary function test apparatus for clinical use, with graphpaper, polyethylene mouth-piece.

Mouth piece 1,000 ea.

Graphpaper 1,000 sheets

17. Biopsy Instrument Set (Probe)

1. Operating Knives, round edge and sharp pointed	1 each
2. Eye Scissor	1
3. Operating Scissor, curved	2
4. - ditto -, but straight	2
5. Tissue Forceps, 1 x 2 teeth, 13 cm	3
6. Dressing Forceps, no teeth, 13 cm	2
7. Kocher Hemostatic Forceps, with teeth	10
8. - ditto -, but without teeth	5
9. Mosquits Hemostatic Forceps	10
10. Mathieu's Needle Holder	2
11. Sterilizer Forceps	2
12. Probe and Grooved Probe	1 each
13. Two-prong Retractor	2
14. Retractor, 3 kinds	1 each
15. Towel Forceps, Box lock	5
16. Needle Case, EB 336	1
17. Beaker and Sponge Bowl	1 each
18. Scale, 15 cm	1
19. Applicator	1

18. Punction Set

- ° Yamada-Sata Lumbar Puncture Instrument Set, in wooden case.

Contents: 1 20-cc Luer glass tip syringe, 1 set of lumbar needles for adult and child, 3 monometer tubes, 1 blood gravimeter, 1 glass cylinder, 1 Nissl albuminometer, 1 liquor collecting tube.

- ° Trocar, chrome plated, 3.0, 3.5, or 4.0 mm in diam.

Ascites Trocar, with 4 needles, chrome plated.

- ° Lumbar Puncture Needle, only, for the above, stainless steel cannula, chrome plated hub.

PHYSIOTHERAPY

1. Ultra Violet Lamp

Can deliver short and long wave ultra violet ray and infrared ray. Irradiation head are mounted on four spread feet on swivel casters with tubular stand has height adjustable sliding cross arm for adjust back and forth.

A.C. 120-125V 50C/S

2. Infra Red Lamp

Designed of wide a perture of irradiation.

30 minutes interval-timer and high efficiency reflecting infrared lamp. Mounted on upright tubular stand with height adjustable counter weight.

A.C. 120-125V 50C/S

3. Ultra Short Wave

Equipped with a tiver and a chime. A definite wave length of micro-wave delivered by a Magnetron.

Component;

- °Main body, complete with spherical concaved
- °Emitter and bracket swing arm with cord 1
- °Ground wire 1
- °Neon tube detector 1
- °Eye shield goggles 1
- °Vinyle cover 1
- °Inspected data and instruction for use 1

Specification;

- °Vacum tube oscillator Magnetron 2 N 25
- °Output frequency 2450 ± 50MHz
- °Output micro-wave power 0-200 watts continuously variable

°Timer 5-30 min.

°Power source A.C. 120-125V 50C/S

Dimension; Cabinet 500 x 375 x 830mm

4. Short Wave Diathermy

Powerful out-put. Can adjust the turning circuit in closely.
Can detect with using together of neon pilot lamp and a neon tube detector.

A.C. 120-125V 50C/S

Vacum-tube Oscillator

Oscillation frequency 40.68MHz

Dimension; 780 x 440 x 800mm

- Accessories;
1. Schliephake's air space condenser electrodes
1 pairs.
 2. Rubber pad electrodes 2 pairs.
 3. Felt pads, large and small 2 pairs.
 4. Rubber belt.
 5. Neon tube detector 1 pc.
 6. Instruction 1 copy.
 7. Winding round Kowarsick electrode 1 pc.

5. Bicycle Exerciser

Height of seat and handles easy adjustable.

Equipped with resistance roller and speed indicator.

Built like a rugged bicycle, it stands solidly on four rubber tipped legs.

Dimension; 1040 x 160 x 720mm

6. Cervical Traction Equipment

For use of reform traction of spiral curvature, put in practice with one's own weight on the adjustable slanted table. Made of wood, equipped with a pole, spreader, and a glison's cervical sling.

Dimension; 600 x 2400 x 1300mm

7. Galvanic Wave Apparatus

An electronic tube rectifier are used for the galvanic current.

Specification; A.C. 120-125V 50C/S

Dimension; 370 x 280 x 190mm

Accessories; °Roller electrode with handle 1
°Electrode handle with interruption key 1
°Electrode handle plain 1
°Moist disc shaped electrodes, dia. 1 and 3cm 2
°Neutral electrode, oval shape
°Patient cord with tipp 1 pair

8. Faradization Apparatus

Compact size with using electronic vacum tube oscillator.

A.C. 120-125V 50C/S

Dimension; 280 x 200 x 160mm

Accessories; °Roll electrode 1
°Neutral electrode 1
°Patient cord 1 pr.

9. Electric Controlled Inter Mittent Traction Apparatus

Self standing cabinet type with four swivel casters.

With remote control switch. Both intermittent and continuous traction can be carry-out.

A.C. 120-125V 50C/S

Dimension; 570 x 540 x 650mm (cabinet)

Traction power 100kg x 2

10. Wrist Twister

Wall mounted. Height adjustable with guide rail frame, which combined with spring mechanism and fastening screw knob.

Dimension; 960 x 965 x 340mm

11. Folding Wheel Chair

Frame is made of stainless steel, 5" diameter front caster. Height adjustable footrest.

12. Forearm Crutcher

Most utilized crutch with reinforced handgrip and armcuff, provide uni-line system for extra-strength. Adjustable 710-910mm from handle to floor.

13. Underarm Crutcher

Sponge rubber padding enhance.

Length adjustable 1050-1310mm

14. Four Casters Walker

Constructed with steel tube. Two front casters are swivel and two rear casters with fixed folks for easy rolling.

Dimension; 650 x 610 x 970-1200mm

15. Spring Suspender Exerciser

Maintain the balance of the patients arm in horizontal position.

Twin for left and right arms suspension, mounted on stationnal stand.

16. Simplicity Roller Tread Mill

Simple type, attached with tread belt can adjust the degree of tread face. Complete with speed-meter and timer.

Dimension; 545 x 1170 x 1030mm

17. Special Unit Item

1. Parallel bars 2pieces

Easy to carry and to fold. Height adjustment by one touch self locking pin on each supporting posts from 670 to 1020mm. Hand rail make of stainless steel tube, dia. 38mm x 3500mm length.

Dimension; 3500 x 700 x 670-1020mm

2. Wall bars 2pieces

Made of hand wood with detachable climbing bar.

Dimension; Overall 1010 x 225 x 2500mm

3. Standing table 2pieces

Padded plywood top upholstered in leatherette is attached to a structural iron supporting frame, mounted on swivel casters, screwlocks provide stability. Can easily operate to adjust the bed level from 0° to 90° with a crank handle.

Complete with cervical sling and bar, safety guard frame and foot board and three straps.

Dimension; 700 x 2000 x 750mm

4. Wheel chair 4pieces

Standard type, but frame is made of stainless steel, 5" diameter, front caster 24" rear wheel diameter, height adjustable footrest.

5. Crutchrack with crutches 1piece

Rack is made of hard wood and aluminum pipe frame.

Ready for 6 crutches. Complete with two Rofstrand crutches and two underarm crutches and one quard-cane and one ortho-cane.

6. Training mat 10 pieces

Made of high density synthetic foam & hair felt combination.
All side seamless soated surface. Give high resistance, durability and shock absorbency.

Dimension; 1800 x 900 x 50mm

7. Stairs exercises 2 pieces

Made of wood. Built in 3 section.

Consist of 1-center platform, 1000 x 1000 x 600mm

2-staircases, one each 4 steps and 2 steps, equipped with steel tublar hand-rail, baked on meramine resin.

8. Hemi-walkerette 5 pieces

Folds flat at the press of the button for easy transfer or storage.
2.5cm anodized drawn aluminum tubing with chrom-plated steel cross-brace for added strength. Height adjustable.

Dimension; 490 x 380 x 830-930mm

9. Mirror 2 pieces

Self standing, movable with four casters.

Single panel full length glass mirror 1520 x 920mm with wooden frame.

Dimensions; 1020 x 450 x 1750mm

10. Extension flextion exercise unit 1 piece

Installed on the wall or pillor, and carry out reciprocal traction exercise with link up the limbo to the pooly rope by means of the grip handle, wrist or ankle cuff.

Dimension; 700 x 230 x 1510mm

11. Shoulder wheel 1 piece

Wall mount, height adjustable. The wheel mounted on roller-bearing shaft with an adjustable handle, offers desired from free running to full brake.

Hard wood made base.

Dimension; Wheel diameter 1050mm

12. Tread mill

Endless tread belt is made from textile fabrics of Rayon and Nylon threads.

Driving drums of the tread belt are coated with rubber.

Speed can adjust between 10 to 100 M. P. M.

Can adjust from 0 to 10 degree.

Equipped with a photo-tube automatic controller as a circuit braker.

Dimension;	Tread-mill	1500 x 2400 x 600mm
	Control table	800 x 400 x 750mm
	Power source	A.C. 3-Phase, 220V, 3kw, 50C/S

13. Whirl pool bath unit 1 piece

Stationary whirl-pool bath unit, for upper and lower unit.

Stainless-steel tub. The turbine ejector pump can adjust of its height in easy by means of counter poise spring supporter and also to adjust the direction of jet flow at will.

Dimension of tub; 920 x 530 x 800mm (700 depth)

Accessories; 1-Electric ejector pump, A.C. 100-125 volt
 200 watt, 50C/S
 1-Dial thermometer
 1-High seating adjustable chair
 1-Under-water seating plate

03 DENTAL INSTRUMENT AND DENTAL X-RAY

1. DENTAL CHAIR

Dental Chair Mount Unit

Contain: Grease sealed air turbine 2 pcs,
Micro motor with straight handpiece &
contra angle ea, 1 pc, Automatic cup
filler, Saliva ejector, 3-ways syringe
2 pcs, Galuxy operating light,
Vacuum pump for Vacuum system with tip
and connection, Foot controller and
full automatic motor chair incorporating
position programming system.

Air turbine rpm: 300,000 - 320,000 rpm

Micro Motor rpm: 4,000 - 40,000 rpm

Galuxy light lux: 15,000, 12V, 55W

AC 100, 200, 220V, 50/60Hz 15A

Net wt 280kg, 80 cuft

2. Dental Air Compressor

Oilless compressor

Motor Spec: Output: 0.75KW

Am : 13A (50C), 11A (60C)

Fuse : 30A

Compressor Spec:

Max Press 7 kg/cm²

Air Output 84 l/min

Pressure Switch Spec:

Switch ON: 6 kg/cm²

" OFF: 7 kg/cm²

Soft Valve ON: Output 8 kg/cm²

Tank L: 38 L

AC 100, 200, 220V, 50/60Hz

Net wt 92 kg, 40 cuft

3. Routine Dental Instrument Set

Contain: Amalgam mixer 1 set, Autoclave 1 set,
Explorers, Excavators, Miller,
Curettes, Broach holder, Saliva
ejector tip, Carvers, ea 20 pcs,
Scalers, plastic filling instrument,
Chisels, Amalpack, Amalgam carrier
& filler, Rubber bowl, Office btl,
Dappen glass, btl stand, Wax & cement
spatura, cotton plier, Glass trays, ECT.

4. Specific Dental Instrument Set

Contain: Amalgam mixer, auto clave ea, 1 set,
Explorers, Excavators, hand miller,
Curettes, Broch holder, Saliva ejectortip
Carvers, Stainless pat, ea 20 pcs,
Scalers, Filling instrument set, Chisels, Amalpack,
Amalgam carriers & fillers, Rubber bowl L,M,S,
Office btl, Dappen glass, btl stand, "ax spatura,
Cement spatura, Cotton pliers, Pincetts, Ruber
Dam clamp set, Mixing tablets, Straight and
Curve type Scissors, Reamer sets, File sets,
FG bur sets & Engine bur set (for use HP & CA)
stainless Cup, ETC.

5. Minor Oral Surgery Set

Contain: Children forceps set,
Bicuspid forceps & cuspid
forceps, Upper & Lower Alveolar
forceps, Root forceps for lower
& upper, Molar forceps for lower &
Upper, Splitting forceps, Bone
cutting forceps, Scissors for surgery
ST & CU, Root pliers, ETC.

6. Major Oral Surgery Set

Contain: 1 set for electrosurgery
and the same materials as above.

7. Dental X-Ray apparatus

Model: Mobile type, Self recitification system
Rated OUTPUT: 60K.V.P 10Ma constant
INPUT: Rating 60K.V.P 10mA (Toshiba D-081)
Effective focus area: 0.8mm x 0.8mm
Time selector: System solid state system
Range of setting time 0.3 - 3.0/sec
AC 100V, 200V, 220V, 50/60Hz
Net wt 80kg 18 cuft.

8. Processing Dental X-Ray film set

Instant film 50 s box
Film 50 s box

X-RAY APPARATUS, PROCESSING APPARATUS & Co 60

1. 700mA, 150kV General Use X-ray Television Diagnostic Apparatus

System requirement: This 700mA, 150kV System shall have the following application

- 1) T.V. Fluoroscopy & spotfilming
- 2) Horizontal & vertically budky radiography
- 3) Planigraphy (tomography)
- 4) Zonography
- 5) Video-recording for teaching purpose
- 6) Mammography

Constitution:

- | | |
|-----------------------------------|-----------|
| 1) X-ray high tension unit | (1 set) |
| 2) X-ray diagnostic table | (1 ") |
| 3) X-ray tube stand | (1 ") |
| 4) X-ray tube, | (1 ") |
| 5) X-ray beam collimator | (1 ") |
| 6) High tension cable | (3 pairs) |
| 7) X-ray tube | (1 set) |
| 8) X-ray beam collimator | (1 ") |
| 9) Teleradiography cassette stand | (1 ") |
| 10) Tomographic attachment | (1 ") |
| 11) Image intensifier | (1 ") |
| 12) X-ray television unit | (1 ") |
| 13) Video recording unit | (1 ") |
| 14) Mammography stand | (1 ") |

15) X-ray tube for mammography (1 set)

16) Accessories

Specifications:

1) X-ray High Tension Unit

Rating: 700mA at 100KV, 500mA at 125KV

300mA at 150KV

4mA (continuous) at 120KV

Range of timer: 25 steps selection between 0.01 - 5 second
for radiography

12/sec. max. rate of serial exposure

0 - 5 min. (50Hz.) at 1 min. graduation

Overload protection mechanism and % tube load meter included.

Electric source: 220V, 50Hz., single phase A.C.

Impulse timer with solid state contactor.

2) X-ray Diagnostic Table

Overall size of

table top: Abt. 202.5(L) cm x 77.5(W) cm

Table top height: approx. 80cm from floor

Table tilting: +90° - -15° by motor

Table to sliding: Approx. 50cm over the head end by motor

Reciprocating bucky: Built-in under the table top and travels
approx. 100cm, available cassette size up
to 35 x 43 cm

Spot film device: Can be parked by sliding away on the right
side approx. 46 cm

Cassette and exposure programs of spot film device:
(by Motor driven)

DIN 35x35cm full exposure.

DIN 24x30cm full exposure and two subdivisional exposure vertically.

DIN 18x24cm full exposure and two subdivisional exposure vertically and horizontally and four subdivisional exposure horizontally.

Lead glass of spot film device: 2.3mm Pb. eq., 36cm x 36cm

Travelling range of spotfilm device: Longitudinal travel approx. 80 - 160cm
Lateral travel approx. 25cm
Compression travel approx. 16 - 46cm

Image intensifier mounting: 7 inches image intensifier can be mounted without ceiling suspension

Provided with compression band and shoulder rest.

3) X-ray Tube Stand

Traveling rails: Floor and ceiling type

Vertical travel: Approx. 20 - 185cm, electromagnetic lock

Longitudinal travel: Approx. 255cm, "

Lateral travel: Approx. 33cm, "

Rotation of the horizontal support arm: $\pm 90^\circ$, click stop by 90°

4) X-ray Tube

Rotating Anode Type

Focus size: 0.5mm x 0.5mm & 1.5mm x 1.5mm

Anode heat storage capacity: 140,000 HU

5) X-ray Beam Collimator

Max. radiation field: 35cm x 35cm

Multi-leaves: Driven by motor

Operation: Remote controlling type

6) High Tension Cables, 8 m length

7) X-ray Tube

Rotating Anode Type

Focus size: 1mm x 1mm & 2mm x 2mm

Anode heat storage capacity: 140,000 HU

8) X-ray Beam Collimator

Max. radiation field: 45cm x 45cm

Radiation field
indicator:

Average brightness - abt. 160 lux/m

Center of the field - dark hair cross

Bucky center - bright line

9) Teleradiography Cassette Stand

Available cassette size: Up to 35cm x 43cm

10) Tomographic Attachment

Focus movement in planigraphy and zonography.

Blurring movement: linear

Focus-film
distance: 100 cm

Exposure angle: 40°, 20° & 8°

Exposure time: Approx. 2.16 sec.

Layer height from
table top: 20 - 250mm motor driven

11) 7 Inch High Performance Image Intensifier

Nominal entrance field size: 175mm (7 inches)

Input screen: CsI

Conversion factor: Over 75 (cd/m²)/(mR/S)

Resolving power: More than 28.5 lp/cm

12) X-ray Television Unit

T.V. camera tube: Newvicon tube

Scanning:

Scanning system; 2:1 interlace

No. of scanning lines; 625

No. of picture per second; 30 frames

Aspect ratio; 1:1

Video band width; 6MHz or more

Resolution; 600 lines or more
(horizontal)
provided with 16"
inch monitor &
monitor table

13) Video Cassette Tape Recorder

Video Recording system: Rotary 2 head
helical scan system

Recording video signal: 625 scan lines

Applicable tape: 3/4 type video cassette tape

Tape speed: 9.53 cm/sec.

Recording time: 60 min.

Provided with 17 inch video monitor, table for video recorder
and monitor, and microphone and 10 pcs. spare 60 min. use
cassette tape.

14) Mammographic stand:

X-ray tube vertical travel: 15 cm
Film magazine vertical travel: 5 cm
Tube focus-film distance: 65 - 85 cm
Swing of tube focus: $\pm 135^\circ$
Film size: 8 x 10 (packed film)
Collimator and cone for
mammography included weight: 250 kg

15) X-ray tube for mammography

Rotating Anode Type

Focus size: 0.5 x 0.5mm & 1 x 1mm

Anode heat storage capacity: 140,000 H.U.

16) Accessories

16-1) Vertical cassette stand	3 sets
16-2) Cassette 35 x 35 cm	5 pcs.
" 30 x 40 cm	5 "
" 24 x 30 cm	5 "
" 18 x 24 cm	5 "
16-3) X-ray caliper	2 "
16-4) Intensifying screen, 35 x 35 cm (Medium speed type)	5 "
" 30 x 40 cm	5 "
" 24 x 30 cm	5 "
" 18 x 24 cm	5 "

16-5)	X-ray film drier	1 set
16-6)	X-ray marker set, number & alphabet	5 sets
16-7)	Aluminum metal fine grid 35 x 35 cm, Ratio 6:1	5 "
16-8)	Interval time	2 "
16-9)	Safelight lamp	2 "
16-10)	Film cutter	2 "
16-11)	Corner cutter	2 "
16-12)	Film hanger, 35 x 35 cm	10 pcs.
	" 30 x 40 cm	10 "
	" 24 x 30 cm	10 "
	" 18 x 24 cm	10 "
16-13)	Developing tank 20 litre 3 tank	2 sets
16-14)	Protective apron	5 pcs.
16-15)	Protective gloves	5 "
16-16)	Dark adaptor goggles	15 "
16-17)	Thermometer	3 "
16-18)	Protective floor screen 182cm high x 181cm wide	3 sets

Intallation Requirement:

Power source: 220 volt 50 Hz. single phase
 Fluctuation allowance: 180 - 260 volt
 Source capacity: 50 KVA

Floor strength: 800 kg/1 m² for table
500 kg/1 m² for generator
250 kg/1 m² for mammography stand

Ceiling height: 250 - 320 cm
Auxiliary support for tube stand ceiling
rail necessary in case of higher than
320 cm

Room space: 5 x 5 meter for X-ray room and
2 x 2 meter for control room

Temperature: Max. 40°C

Humidity: Max. 90%
But 80% or less desirable

2. General Use X-ray Diagnostic Apparatus

System requirement: This 500mA, 125KV System shall have the following application

- 1) Fluoroscopy & spotfilming
- 2) Horizontal & vertically bucky radiography
- 3) Planigraphy (tomography)
- 4) Zonography

Constitution:

- | | |
|-----------------------------------|-----------|
| 1) X-ray high tension unit | (1 set) |
| 2) X-ray diagnostic table | (1 ") |
| 3) X-ray tube stand | (1 ") |
| 4) X-ray tube | (1 ") |
| 5) X-ray beam collimator | (1 ") |
| 6) High tension cable | (2 pairs) |
| 7) X-ray tube | (1 set) |
| 8) X-ray beam collimator | (1 ") |
| 9) Teleradiography cassette stand | (1 ") |
| 10) Tomographic attachment | (1 ") |
| 11) Accessories | (1 ") |

Specifications:

1) X-ray High Tension Unit

Rating: 300mA at 125KV, 500mA at 100KV
Technique: Six technique selector
Exposure timer: 1/100 sec. - 5 sec. by SCR timer
mAs meter: mAs valve holding after exposure

Over load protection: Percentage ratio of tube load and its rating shall be indicated on a load factor meter.

Tube protection: Filament voltage stabilizer and space charge compensator

Electric source: 220V, 50Hz., single phase A.C. with overvoltage protection, line switch with circuit breaker.

2) X-ray Diagnostic Table

Overall size of table top: Abt. 202.5(L)cm × 77.5(W)cm

Table top height: approx. 80cm from floor

Table tilting: +90° - -15° by motor

Table top sliding: Approx. 50cm over the head end by motor

Reciprocating bucky: Built-in under the table top and travels approx. 100cm, available cassette size up to 35 × 43 cm

Spot film device: Can be parked by sliding away on the right side approx. 46cm

Cassette and exposure programs of spot film device:

DIN 35x35cm full exposure.

DIN 24x30cm full exposure and two subdivisional exposure vertically.

DIN 18x24cm full exposure and two subdivisional exposure vertically and horizontally and four subdivisional exposure horizontally.

Lead glass of spot
film device: 2.3mm Pb. eq., 36cm x 36cm

Travelling range of
spotfilm device: Longitudinal travel approx. 80-160cm
Lateral travel approx. 25cm
Compression travel approx. 16-46cm

Provided with compression band and shoulder rest.

3) X-ray Tube Stand

Travelling rails: Floor and ceiling type

Vertical travel: approx. 20-185cm, electromagnetic lock

Longitudinal travel: approx. 255cm, electromagnetic lock

Lateral travel: approx. 33cm, electromagnetic lock

Rotation of the
horizontal support
arm: $\pm 90^\circ$, click stop by 90°

4) X-ray Tube

Rotating Anode Type

Focus size: 0.5mm x 0.5mm & 1.5mm x 1.5mm

Anode heat storage
capacity: 140,000 HU

5) X-ray Beam Collimator

Max. radiation field: 35cm x 35cm

Multi-leaves: Driven by motor

Operation: Remote controlling type

6) High Tension Cables, 8 m length

7) X-ray Tube

Rotating Anode Type

Focus size: 1mm x 1mm & 2mm x 2mm

Anode heat storage
capacity: 140,000 HU

8) X-ray Beam Collimator

Max. radiation field: 45cm x 45cm

Radiation field
indicator:

Average brightness - abt. 160 lux/m
Center of the field - dark hair cross
Bucky center - bright line

9) Teleradiography Cassette Stand

Available cassette
size:

Up to 35cm x 43cm

10) Tomographic Attachment

Focus movement in planigraphy and zonography.

Blurring movement: Linear

Focus-film distance: 100 cm

Exposure angle: 40°, 20° & 8°

Exposure time: approx. 2.16 sec.

Layer height from
table top: 20-250 mm motor driven

11) Accessories

11-1)	Vertical cassette stand	2 sets
11-2)	Cassette 35 x 35 cm	3 pcs.
	" 30 x 40 cm	3 "
	" 24 x 30 cm	3 "
	" 18 x 24 cm	3 "
11-3)	X-ray caliper	1 pce.
11-4)	Intensifying screen, 35 x 35 cm (Medium speed type)	3 pcs.
	" 30 x 40 cm	3 "
	" 24 x 30 cm	3 "
	" 18 x 24 cm	3 "

11-5)	X-ray film drier	1 set
11-6)	X-ray marker set, number & alphabet	3 sets
11-7)	Aluminum metal fine grid 35 x 35 cm, Ratio 6:1	3 "
11-8)	Interval timer	2 "
11-9)	Safelight lamp	1 set
11-10)	Film cutter	1 "
11-11)	Corner cutter	1 "
11-12)	Film hanger, 35 x 35 cm	5 pcs.
	" 30 x 40 cm	5 "
	" 24 x 30 cm	5 "
	" 18 x 24 cm	5 "
11-13)	Developing tank 20 litre 3 tank	1 set
11-14)	Protective apron	5 pcs.
11-15)	Protective gloves	5 "
11-16)	Dark adaptor goggles	5 "
11-17)	Thermometer	2 "
11-18)	Protective floor screen 182cm high x 181cm wide	1 set
11-19)	X-ray film viewer desk top type 14 x 17" 3 film hanger	2 sets

Installation Requirement:

Power source:	220 volt 50 Hz. single phase
Fluctuation allowance:	180 - 260 volt
Source capacity:	30 KVA
Floor strength:	800 kg/1 m ² for table 300 kg/1 m ² for generator

Ceiling height: 250 - 320 cm
Auxiliary support for the stand ceiling
rail necessary in case of higher than
320 cm

Room space: 5 x 5 meter for X-ray room and
2 x 2 meter for control room

Temperature: Max. 40°C

Humidity: Max. 90%
But 80% or less desirable

General Use X-ray Diagnostic Apparatus

System requirement: This 500mA, 125KV System shall have this following application.

- 1) Fluoroscopy & spotfilming
- 2) Horizontal & vertically bucky radiography
- 3) Planigraphy (tomography)
- 4) Zonography

Constitution:

- | | |
|-----------------------------------|-----------|
| 1) X-ray high tension unit | (1 set) |
| 2) X-ray diagnostic table | (1 ") |
| 3) X-ray tube stand | (1 ") |
| 4) X-ray tube | (1 ") |
| 5) X-ray beam collimator | (1 ") |
| 6) High tension cable | (2 pairs) |
| 7) X-ray tube | (1 set) |
| 8) X-ray beam collimator | (1 ") |
| 9) Teleradiography cassette stand | (1 ") |
| 10) Tomographic attachment | (1 ") |
| 11) Accessories | (1 ") |

Specifications:

- 1) X-ray High Tension Unit

Rating :	300mA at 125KV, 500mA at 100KV
Technique:	Six technique selector
Exposure timer:	1/100 sec. - 5 sec. by SCR timer
mAs meter:	mAs valve holding after exposure

Over load protection: Percentage ratio of tube load and its rating shall be indicated and a load factor meter.

Tube protection: Filament voltage stabilizer and space charge compensator

Electric source: 220V, 50Hz., single phase A.C. with overvoltage protection, line switch with circuit braker.

2) X-ray Diagnostic Table

Overall size of table top: Abt. 202.5(L)cm x 77.5(W)cm

Table top height: approx. 80cm from floor

Table tilting: +90° - -15° by motor

Table top sliding: Approx. 50cm over the head end by motor

Reciprocating bucky: Built-in inder the table top and travels approx. 100cm, available cassette size up to 35x43cm

Spot film device: Can be parked by sliding away on the right side approx. 46cm

Cassette and exposure programs of spot film device:

DIN 35x35cm full exposure.

DIN 24x30cm full exposure and two subdivisioal exposure vertically.

DIN 18x24cm full exposure and two subdivisioal exposure vertically and horizontally and four subdivisioal exposure horizontally.

Lead glass of spot film device: 2.3mm Pb. eq., 36cm x 36cm

Travelling range of spotfilm device: Longitudinal travel approx. 80-160cm
Lateral travel approx. 25cm
Compression travel approx. 16-46cm

provided with compression band and shoulder rest.

3) X-ray Tube Stand

Traveling rails: Floor and ceiling type
Vertical travel: approx. 20-185cm, electromagnetic lock
Longitudinal travel: approx. 255cm, "
Lateral travel: approx. 33cm, "
Rotation of the horizontal support arm: $\pm 90^\circ$, click stop by 90°

4) X-ray Tube

Rotating Anode Type

Focus size: 0.5mm x 0.5mm & 1.5mm x 1.5mm
Anode heat storage capacity: 140,000 HU

5) X-ray Beam Collimator

Max. radiation field: 35cm x 35cm
Multi-leaves: Driven by motor
Operation: Remote controlling type

6) High Tension Cables, 8 m length

7) X-ray Tube

Rotating Anode Type

Focus size: 1mm x 1mm & 2mm x 2mm
Anode heat storage capacity: 140,000 HU

8) X-ray Beam Collimator

Max. radiation field: 45cm x 45cm

Radiation field
indicator: Average brightness - abt. 160 lux/m
Center of the field - dark hair cross
Bucky center - bright line

9) Teleradiography Cassette Stand

Available cassette
size: Up to 35cm x 43cm

10) Tomographic Attachment

Focus movement in planigraphy and zonography.

Blurring movement: Linear

Focus-film
distance: 100 cm

Exposure angle: 40°, 20° & 8°

Exposure time: approx. 2.16 sec.

Layer height from
table top: 20-250 mm motor driven

11) Accessories

11-1)	Vertical cassette stand	2 sets
11-2)	Cassette 35 x 35 cm	3 pcs.
	" 30 x 40 cm	3 "
	" 24 x 30 cm	3 "
	" 18 x 24 cm	3 "
11-3)	X-ray caliper	1 pce.
11-4)	Intensifying screen, 35 x 35 cm (Medium speed type)	3 pcs.
	" 30 x 40 cm	3 "
	" 24 x 30 cm	3 "
	" 18 x 24 cm	3 "

11-5)	X-ray film drier	1 set
11-6)	X-ray marker set, number & alphabet	4 sets
11-7)	Aluminum metal fine grid 35 x 35 cm, Ratio 6:1	4 "
11-8)	Interval timer	2 "
11-9)	Safelight lamp	2 "
11-10)	Film cutter	1 set
11-11)	Corner cutter	1 "
11-12)	Film hanger, 35 x 35 cm	10 pcs.
	" 30 x 40 cm	10 "
	" 24 x 30 cm	10 "
	" 18 x 24 cm	10 "
11-13)	Developing tank 20 litre 3 tank	2 sets
11-14)	Protective apron	5 pcs.
11-15)	Protective gloves	5 "
11-16)	Dark adaptor goggles	10 "
11-17)	Thermometer	2 "
11-18)	Protective floor screen 182cm high x 181cm wide	1 set
11-19)	X-ray film viewer desk top type 14 x 17" 3 film hanger	1 set

Installation Requirement:

Power source: 220V volt 50 Hz. single phase

Fluctuation allowance: 180 - 260 volt

Source capacity: 30 KVA

Floor strength: 800 kg/1 m² for table
300 kg/1 m² for generator

Ceiling height: 250 - 320 cm
Auxiliary support for tube stand ceiling
rail necessary in case of higher than
320 cm

Room space: 5 x 5 meter for X-ray room and
2 x 2 meter for control room

Temperature: Max. 40°C

Humidity: Max. 90%
But 80% or less desirable

General Use X-ray Diagnostic Apparatus

300mA, 130KV, 2 X-ray Tube

Application:

1. Fluoroscopy
2. Horizontal & Vertical Bucky Radiography
3. Tilting Bucky Stand Radiography
4. Spot-filming

Constitution:

- | | |
|-----------------------------------|-----------|
| 1) X-ray high tension unit | (1 set) |
| 2) X-ray diagnostic table | (1 ") |
| 3) X-ray tube stand | (1 ") |
| 4) X-ray tube | (1 ") |
| 5) X-ray beam collimator | (1 ") |
| 6) High tension cable | (2 pairs) |
| 7) X-ray tube | (1 set) |
| 8) X-ray beam collimator | (1 ") |
| 9) Teleradiography cassette stand | (1 ") |
| 10) Tilting Bucky Stand | (1 ") |
| 11) Accessories | (1 ") |

Specifications:

- 1) X-ray High tension Unit

Rating: 300mA at 80KV, 150mA at 130KV
4mA cont. at 100KV

mAs adjuster: 3 - 300 mAs in 16 steps

Fluoroscopic tube
adjustable range: 1 - 4 mA continuously

Tube voltage adjuster: Coarse and fine

Stepless line voltage adjuster

Electric source: 220V, 50Hz., single phase A.C.

2) X-ray Diagnostic Table

Overall size of table top: Abt. 202.5(L) cm x 77.5(W) cm

Table top height: approx. 80 cm for floor

Table tilting: +90° - -15° by motor

Table top sliding: Approx. 50cm over the head end by motor

Reciprocating bucky: Built-in under the table top and travels approx. 100cm, available cassette size up to 35x43cm

Spot film device: Can be parked by sliding away on the right side approx. 46cm

Cassette and exposure programs of spot film device:

DIN 35x35cm full exposure.

DIN 24x30cm full exposure and two subdivisinal exposure vertically.

DIN 18x24cm full exposure and two subdivisinal exposure vertically and horizontally and four subdivisinal exposure horizontally.

Lead glass of spot

film device: 2.3mm Pb. eq., 36cm x 36cm

Travelling range of

spotfilm device: Longitudinal travel approx. 80-160cm

Lateral travel approx. 25cm

Compression travel approx. 16-46cm

Provided with compression band and shoulder rest.

3) X-ray Tube Stand

Traveling rails:	Floor and ceiling type
Vertical travel:	approx. 20-185cm, electromagnetic lock
Longitudinal travel:	approx. 255cm, "
Lateral travel:	approx. 33cm, "
Rotation of the horizontal support arm:	$\pm 90^\circ$, click stop by 90°

4) X-ray Tube

Rotating Anode Type

Focus size:	0.5mm x 0.5mm & 1.5mm x 1.5mm
Anode heat storage capacity:	140,000 HU

5) X-ray Beam Collimator

Max. radiation field:	35cm x 35cm
Multi-leaves:	Driven by motor
Operation:	Remote controlling type

6) High Tension Cables, 8 m length

7) X-ray Tube

Rotating Anode Type

Focus size:	1mm x 1mm & 2mm x 2mm
Anode heat storage capacity:	140,000 HU

8) X-ray Beam Collimator

Max. radiation field: 45cm x 45cm

Radiation field
indicator:

Average brightness - abt. 160 lux/m
Center of the field - dark hair cross
Bucky center - bright line

9) Teleradiography Cassette Stand

Available cassette
size:

Up to 35cm x 43cm

10) Tilting Bucky Stand

Table top height for
use vertical
radiographic:

Approx. 65 - 190cm for floor

Table top height for
use horizontal
radiographic:

Approx. 54 - 179cm from floor

Table top tilting:

Approx. 20° continuous

Table top size:

60 x 63 cm

Rotation of Bucky
device:

90°, 180° 2 step

11) Accessories

11-1) Vertical cassette stand

1 set

11-2) Cassette 35 x 35 cm

3 pcs.

" 30 x 40 cm

3 "

" 24 x 30 cm

3 "

" 18 x 24 cm

3 "

11-3) X-ray caliper

1 pcs.

11-4)	Intensifying screen, 35 x 35 cm (Medium speed type)	3 pcs.
	" 30 x 40 cm	3 "
	" 24 x 30 cm	3 "
	" 18 x 24 cm	3 "
11-5)	X-ray film drier	1 set
11-6)	X-ray marker set, number & alphabet	2 sets
11-7)	Aluminum metal fine grid 35 x 35 cm, Ratio 6:1	2 "
11-8)	Interval timer	1 set
11-9)	Safelight lamp	1 "
11-10)	Film cutter	1 "
11-11)	Corner cutter	1 "
11-12)	Film hanger, 35 x 35 cm	5 pcs.
	" 30 x 40 cm	5 "
	" 24 x 30 cm	5 "
	" 18 x 24 cm	5 "
11-13)	Developing tank 20 litre 3 tank	1 set
11-14)	Protective apron	3 pcs.
11-15)	Protective gloves	3 "
11-16)	Dark adaptor goggles	3 "
11-17)	Thermometer	2 "
11-18)	Protective floor screen 182cm high x 181cm wide	1 set
11-19)	X-ray film viewer desk top type 14 x 17" 3 film hanger	1 set

Installation Requirement:

Power source: 220 volt 50 Hz. single phase

Fluctuation allowance: 180 - 260 volt

Source capacity: 30 KVA

Floor strength: 800 kg/l m² for table
300 kg/l m² for generator

Ceiling height: 250 - 320 cm
Auxiliary support for tube stand ceiling
rail necessary in case of higher than
320 cm

Room space: 5 x 5 meter for X-ray room and
2 x 2 meter for control room

Temperature: Max. 40°C

Humidity: Max. 90%
But 80% or less desirable

5. General Use X-ray Diagnostic Apparatus
300mA, 100KV, 1 X-ray Tube

Application :

1. Fluoroscopy
2. Horizontal & Vertical Bucky Radiography
3. Tilting Bucky Stand Radiography
4. Spot-filming

Constitution:

- | | |
|-----------------------------------|----------|
| 1) X-ray high tension unit | (1 set) |
| 2) X-ray diagnostic table | (1 ") |
| 3) X-ray tube stand | (1 ") |
| 4) X-ray tube | (1 ") |
| 5) X-ray beam collimator | (1 ") |
| 6) High tension cable | (1 pair) |
| 7) Teleradiography cassette stand | (1 set) |
| 8) Tilting Bucky Stand | (1 ") |
| 9) Accessories | (1 ") |

Specifications:

1) X-ray High Tension Unit

Rating:

300mA at 60KV, 100mA at 100KV

4mA cont. at 95KV

mAs adjuster:

For short time exposure: 3, 5, 10, 15, 20,
25, 30, 40, 50 mAs

For long time exposure : 30, 60, 90, 120,
150, 240, 300 mAs

Fluoroscopic tube adjustable range: 1 - 4 mA continuously
Tube voltage adjuster: Coarse and fine
Line voltage adjuster
Electric source: 220V, 50Hz, single phase A.C.

2) X-ray Diagnostic Table

Overall size of table top: Abt. 202.5(L) cm x 77.5(W) cm
Table top height: approx. 80 cm from floor
Table tilting: +90° - -15° by motor
Table top sliding: approx. 50 cm over the head end by motor
Reciprocating bucky: Built-in under the table top and travels approx. 100 cm, available cassette size up to 35 x 43 cm
Spot film device: Can be parked by sliding away on the right side approx. 46 cm

Cassette and exposure programs of spot film device:

DIN 35 x 35 cm full exposure.

DIN 24 x 30 cm full exposure and two subdivisional exposure vertically.

DIN 18 x 24 cm full exposure and two subdivisional exposure vertically and horizontally and four subdivisional exposure horizontally.

Lead glass of spot film device: 2.3 mm Pb. eq., 36 cm x 36 cm

Travelling range of spotfilm device: Longitudinal travel approx. 80 - 160 cm
Lateral travel approx. 25 cm
Compression travel approx. 16 - 46 cm

Provided with compression band and shoulder rest.

3) X-ray Tube Stand

Traveling rails: Floor and ceiling type
Vertical travel: approx. 20 - 185 cm, electromagnetic lock
Longitudinal travel: approx. 255 cm, "
Lateral travel: approx. 33 cm, "
Rotation of the horizontal support arm: $\pm 90^\circ$, click stop by 90°

4) X-ray Tube

Rotating Anode Type

Focus size: 1.0mm x 1.0mm & 2.0mm x 2.0mm
Anode heat storage capacity: 140,000 HU

5) X-ray Beam Collimator

Max. radiation field: 35 cm x 35 cm
Multi-leaves: Driven by motor
Operation: Remote controlling type (Local control with tube stand)

6) High Tension Cables, 8 m length

7) Teleradiography Cassette Stand

Available cassette size: Up to 35 cm x 43 cm

8) Tilting Bucky Stand

Table top height for use vertical radiographic: Approx. 65 - 190 cm for floor
Table top height for use horizontal radiographic: Approx. 54 - 179 cm from floor

Table top tilting: Approx. 20° continuous
 Table top size: 60 x 63 cm
 Rotation of Bucky
 device: 90°, 180° 2 step

9) Accessories

9-1)	Vertical cassette stand	1 set
9-2)	Cassette 35 x 35 cm	2 pcs.
	" 30 x 40 cm	2 "
	" 24 x 30 cm	2 "
	" 18 x 24 cm	2 "
9-3)	X-ray caliper	1 pce.
9-4)	Intensifying screen, 35 x 35 cm (Medium speed type)	2 pcs.
	" 30 x 40 cm	2 "
	" 24 x 30 cm	2 "
	" 18 x 24 cm	2 "
9-5)	X-ray marker set, number & alphabet	1 set
9-6)	Aluminum metal fine grid 35 x 35 cm, Ratio 6:1	1 "
9-7)	Interval timer	1 "
9-8)	Safelight lamp	1 "
9-9)	Film cutter	1 "
9-10)	Corner cutter	1 "
9-11)	Film hanger, 35 x 35 cm	3 pcs.
	" 30 x 40 cm	3 "
	" 24 x 30 cm	3 "
	" 18 x 24 cm	3 "
9-12)	Developing tank 20 litre 3 tank	1 set
9-13)	Protective apron	2 pcs.
9-14)	Protective gloves	2 "
9-15)	Dark adaptor goggles	2 "

- 9-16) Thermometer 1 pce.
9-17) Protective floor screen
182 cm high x 181 cm wide 1 set

Installation Requirement:

- Power source: 220 volt 50 Hz. single phase
Fluctuation allowance: 180 - 260 volt
Source capacity: 25 KVA
Floor strength: 800 kg/1 m² for table
200 kg/1 m² for generator
Ceiling height: 250 - 320 cm
Auxiliary support for tube stand ceiling
rail necessary in case of higher than
320 cm
Room space: 5 x 5 meter for X-ray room and
2 x 2 meter for control room
Temperature: Max. 40°C
Humidity: Max. 90%
But 80% or less desirable

6. Mass Chest Examination Apparatus

Constitution:

- | | |
|---|---------|
| 1) X-ray high tension unit
1.5 μ F, 125 KV | (1 set) |
| 2) X-ray tube | (1 ") |
| 3) X-ray tube stand | (1 ") |
| 4) Photofluorographic stand | (1 ") |
| 5) 70 mm X-ray camera | (1 ") |
| 6) Phototimer | (1 ") |
| 7) Spare magazine with spool | (1 ") |
| 8) Accessories | (1 ") |

Specifications:

- 1) Condenser discharge X-ray high tension unit

Rating: 1.5 μ F, 125KV for radiography
1.0 mA, 120KV for fluoroscopy

Adjustable range of tube voltage adjuster: 45-125KV changeable continuously for radiography
80-120KV automatically adjusted interlocking with the radiographic (KV) adjuster, correction is possible, for fluoroscopy.

Adjusting range of tube current adjuster: 0 - 4 mA changeable continuously for fluoroscopy

The following shall be obtained.

- (1) X-ray tube can be used under optimum load condition.
- (2) Direct radiographs with maximum contrast can be easily obtained.

- (3) Accurate tube voltage is obtainable by condenser voltage direct reading system.
- (4) Stabilized tube voltage is obtainable.
- (5) Automatic discharge is furnished.
- (6) Fluoroscopic and radiographic voltage are adjustable independently each other.

Electric source: 220V, 50Hz, single phase A.C.

2) X-ray tube

Focus size: 1.2 mm x 1.2 mm

Anode heat storage capacity: 80,000 H.U.

3) X-ray tube stand

Floor mount type

4) Photofluorographic stand

Effective area of fluorographic screen: 40 x 40 cm

Height of foot rest: Adjustable from 10 to 40 cm at 10 cm intervals from the base

Grid: Ratio 5:1
Density 34 lines/cm

5) 70 mm X-ray lens camera

Film used: 70 mm 30.5 m long roll film with leader section no perforations

Picture size: 63 x 63 mm

Exposure: 400 frames (can be cut-off midway)

6) Phototimer for Photofluorography

7) Spare 70 mm roll film magazine with spool

8) Accessories

- 8-1) Electromagnetic film number marker
for photofluorograph 1 set
- 8-2) Roll film viewer for 70 mm
film of 100 feet 1 set

Installation Requirement:

Power source: 220 volt 50 Hz. single phase

Fluctuation allowance: 180 - 240 volt

Source capacity: 3 KVA

Floor strength: 300 kg/1 m² for generator
200 kg/1 m² for stand

Ceiling height: 250 cm and up

Room space: 2 x 3 m²

Temperature: Max. 40°C

Humidity: Max. 90%
But 80% or less desirable

7. Surgical Use Movable Type X-ray Television Unit

Consisting:

H.T. Generator	(1 set)
Controller	(1 ")
Mobile unit with arm unit	(1 ")
7-inches	
image amplifier	(1 ")
X-ray T.V. unit	(1 ")
Monitor T.V. unit	(1 ")
Table for above	(1 ")

General features:

The unit is designed to be used for T.V. fluoroscopy and direct radiography in an operation room, emergency room and room for therapeutic collimation. Since the unit is used for fluoroscopy of a patient in emergency or under operation, who naturally cannot be moved it must be operated freely and swiftly in its positioning and pointing to the affected part.

A. X-ray Generator

- 1) Rating:

50 KVP	35 mA	5 sec.
90 KVP	20 mA	5 sec.
100 KVP	3 mA	continuous

- 2) Range of tube voltage selector knob:

Fluoroscopy:	40, 50, 60, 70, 80, 90, 100 KVP
Radiography:	(KVP-mA interlocked)
	60-30, 50-35, 75-25, 9-20

- 3) Exposure timer: 21 steps from 0.04 to 5 sec.

4) Controller:

- (1) Line voltage regulator
- (2) KVP-mA regulator
For radiography - interlocked
For fluoroscopy - free
- (3) Fluoro. mA regulator - continuous
- (4) Radiographic timer:
0.04, 0.06, 0.08, 0.10, 0.12, 0.16, 0.20, 0.25,
0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.2, 1.8,
2.0, 2.5, 3.0, 4.0, 5.0 sec. 21 steps
- (5) Line volt meter
- (6) mA meter
- (7) Power ON-OFF switch
- (8) X-ray Indicator
- (9) X-ray Handswitch
- (10) UP-DOWN switch of vertical movement of stand

B. X-ray Tube

- 1) Tube focus: 0.6 x 0.6 mm² & 2.0 x 2.0 mm²

C. Seven Inches Image Amplifier

- 1) Effective viewing field: 7 inch (175 mm ϕ)
- 2) Image minification: 10
- 3) Electron accelerating voltage: 30 KV max.
- 4) Conversion factor: Over 75 cd(m)⁻² (mR)⁻¹s min. or more
- 5) Resolution: Image tube 30 lines/cm (center)

D. Tube Stand

- 1) Lowest level X-ray beam from floor: 95 cm
- 2) Distance betw. X-ray tube focus & image amplifier: 80 cm
- 3) Movement of C arm: 90 degrees
- 4) Vertical movement of stand: 40 cm by motor-driven at the speed of 3.0 cm/sec. (60 Hz.)
- 5) Forward movement of arm: 20 cm
- 6) Pivoting movement of arm: 25 degrees
- 7) Rotary movement of arm: 360 degrees

E. Power Supply

Single phase, AC 100V or 200V, 60Hz.

F. X-ray Television with Newvicon

- 1) Scanning: 625 lines
- 2) Aspect ratio: 1:1
- 3) Resolution: 600 lines/horizontal
400 lines/vertical
- 4) Special circuit: White clip control circuit
Shading compensating circuit,
Inversion of Right/Left
Inversion of Upside/Downside

- G. Radiography with cassette: By means of cassette holder at just front of I.A. screen
Acceptable cassette ... 10 x 12 or
8 x 10

Installation Requirement:

Power source:	220 volt 50 Hz. single phase
Fluctuation allowance:	180 - 240 volt
Source capacity:	3 KVA
Ceiling height:	2.5 meter and up
Temperature:	Max. 40°C
Humidity:	Max. 90% But 80% or less desirable

8. 600 mA, 125 KV, 1.0 μ F Condenser Type Mobile X-ray Apparatus MCL25L-30

Condenser discharge type mobile X-ray apparatus, compact and high output 600mA, with motor driven base. Usable with house power source and safety mechanism such as, key switch, double wire counter-balancing, arrester in H.T. circuit, tube overload protection, tube thermal switch, deadman mobile brake, bright (over 160 lux/m) collimator lamp and elimination of off-focus X-ray and X-ray leakage considered in collimator system by adoption of X-ray beam centering device, selection of filters and radiation field size indicator.

Following mechanism and performance incorporated for obtaining clear picture and accurate radiography 13 steps of mAs selection, automatic line voltage regulation, wave tail chopping of rapid response and hand switch.

Consisting of:

125KV, 1 μ F High Tension Generator	(1 set)
Control	(1 ")
X-ray Tube 1.2 x 1.2 mm focus	(1 ")
Multi-leaf Collimator	(1 ")
Motorized Mobile Base & Tube Stand	(1 ")
Line Cord with reel	(1 ")
H.T. Cable	(1 pair)
Low Voltage Cable	(1 set)
Hand switch	(1 ")

Specifications:

1) Radiographic rating:

Max. operation voltage:	125 KV
Condenser capacity:	1 μ F

2) Power supply:

Phase: single phase
Frequency: 50 Hz.
Voltage: 90, 100, 110, 120, 200, 210,
220, 230, 240, 250V, A.C.
Capacity: more than 2 KVA

3) Main performance:

(a) Radiographic rating: 30 KV - 125 KV continuously

(b) mAs adjusting range: 2 mAs - 60 mAs 15 steps

(c) Automatic control:

- . Automatic charge stop
- . Automatic recharge
- . Automatic line voltage stabilization
- . Battery automatic charger

(d) Safety device:

- . X-ray tube overload protection mechanism
- . X-ray tube thermal switch
- . Dead-man type mobile brake
- . Key-type switch

4) Controller:

(a) Power source switch:

Key operated power "ON", "OFF", transportation in hospital "TRANSFER" and battery charge "BATTERY" switch prevents unauthorized use or tampering with the unit.

(b) Charge pushbutton switch:

By depressing "CHARGE" switch, the unit starts charging. Charging is automatically stopped, when the voltage reaches the value set by X-ray tube voltage regulator.

- (c) Discharge pushbutton switch:
Charged voltage can be decreased gradually or residual charge is released safely.
- (d) X-ray tube voltage regulator:
30 - 125 KV continuously
- (e) mAs regulator:
2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30, 40, 50, 60 mAs
15 steps
- (f) X-ray tube voltmeter (KV)
- (g) Radiographic frequency indication counter:
Indicates exposure number
- (h) Indication Lamp:
(1) Power "ON"
(2) DISCHARGE indicator
(3) CHARGE indicator
(4) READY indicator
(5) X-ray indicator
- (i) Charging time: Max. 20 seconds
(with power supply of AC 100V and line impedance 0.5 ohm)
- (j) X-ray switch: Hand switch type
- 5) X-ray tube:
Focal spot: 1.2 x 1.2 mm
Max. operating voltage: 125 KVP
- 6) Mobile base:
Motor drive type operated by battery
Running speed: Forward high speed 3 km/h
Forward low speed: 2 km/h

Bedside speed:

Reverse: Slow and bedside speeds

Climbing power: 5 degrees (approx.)

7) Collimator:

Equipped with stand-by radiation shutter

(a) Max. operating voltage: 150 KVP

(b) Radiation field: 45 x 45 cm/SID 100 cm

(c) Field indication: Over 160 lux/m
Contrast-4

(d) Minimized leakage X-rays with three beds of leaves and shield pipe

(e) Opening indication: three SID

(f) Field rotation: $\pm 80^\circ$

(g) Additional filter: 0.5 mm Al.
Filter can be inserted without intercepting the field indicating light beam.

(h) Effective elimination of off-focus X-rays with the upper leaves are placed close to the X-ray focus.

8) Line cord reeling device

9) Capacity of cassette storage:

Up to 10 pcs. of 14" x 17" cassettes

10) X-ray tube support by telescopic column

11) Dimensions & Weight:

(a) High of transportation: 177 cm

(b) Highest position of X-ray tube focus on radiography: 190 cm

(c) Lowest position of X-ray
tube focus on
photography:

73 cm

(d) Total weight:

400 kgs. approx.

Installation Requirement:

Power source:

Can be taken from ordinary house power
terminal at bedside

Source capacity:

2 KVA

Floor strength:

200 kg/1 m²

Ceiling height:

2 meters

9. Rotating Radiotherapy System

System requirement: This system shall be so completely protected that the leakage is less than 8 mR/h at one meter in any direction from a Cobalt source of 12,000 Ci in the "off" position and enable to plan the therapy.

Constitution:

(1) Cobalt 60 Therapy Unit	(1 set)
(2) Accessories	(1 pair)
(3) Therapy Planning Stand	(1 set)
(4) X-ray Tube	(1 ")
(5) X-ray Beam Collimator	(1 ")
(6) High Tension Cable	(1 pair)
(7) X-ray High Tension Unit	(1 set)
(8) Image Amplifier	(1 ")
(9) X-ray Television	(1 ")

Specifications:

- (1) Cobalt 60 Therapy Unit

Rating:

1. Source

- a) Maximum Source Capacity Up to 12,000 Curies Cobalt 60
(Limited by the specific activity of the source)
- b) Source Capacity Size 25 ϕ mm x 40 mm
- c) S.A.D. (Source-Axis Distance) 80 cm

2. Output

Dose rate at 1 meter under 5,000 curies load approx.
80R/min. (Self-absorption assumed 30%)

3. Protection

- a) Average: Less than 2 mR/h
- b) Maximum: Less than 8 mR/h when loaded with
12,000 curies
Cobalt 60 measured at 1 m from the
source.

4. Electric Source

Single phase AC 220V, 50Hz., 3 KVA maximum total load
Three phase AC 200V, 50Hz.

5. Rotating Drive Mechanism

- a) Type of Head Support: Ring Type
- b) Rotation: (Head rotation)
 $\pm 360^\circ$ continuously
- c) Height of rotation axis from floor: 115 cm
- d) Rotation speed: 0.1 - 1.0 r.p.m.
continuously adjustable
- e) Pendulum movement: 0 - 330°

6. Source Head

- a) Source head swivel: CW : 150°
CCW: 180°
by motor driven
- b) Time required for Source ON-OFF: approx. 1.5 sec.
- c) Source ON-OFF control: Achieved through linear
translation of source drawer

7. Collimator:

- a) Collimator swivel: $\pm 90^\circ$ by motor driven
- b) Collimator Type: Pyramid type
- c) Field size at the center of rotation: 4 cm x 4 cm to 30 cm x 30 cm (square or rectangular)

8. Retractable Beam Stopper

This unit is the only cobalt treatment unit to offer the unique advantages of a retractable beam stopper. Reduced room construction costs, maximum equipment and room utilization and ease of patient set-up are only a few of the advantages of this unique system.

The Primary Beam Stopper is a steel jacketed lead shield that can absorb more than 99.9% of the primary beam, and greatly reduces the treatment room shielding requirements. The unit allows the beam stopper to be longitudinally retracted into the beam stopper housing in order to facilitate patient positioning during fixed beam treatment. Housing 85 cm by motor driven longitudinally

9. Treatment Stretcher

- a) Stretcher top area: approx. 240 cm x 46 cm
- b) Stretcher top high: approx. 75 cm - 115 cm
- c) Longitudinal travel: approx. 80 cm
- d) Lateral travel: approx. 20 cm
- e) Angulation aboard (Base): approx. 220°
- f) Angulation aboard (Support column): approx. $\pm 180^\circ$

Part of the stretcher top is made of special polyester film (which is 0.2 mm thick) in order to eliminate beam attenuation and electron scatter. Accessory mounting rails are also provided.

(2) Accessories

1. Standard Accessories

1) Optical distance indicator

2. Optional Accessories

1) Wall mounted side light

2) Beam shaping kit including lead blocks (Collimator mounted)

3) Wedge filter (30°, 45°, 60°)

4) Mechanical front pointer

5) Mechanical back pointer

6) Pin and arc

7) Scale (for measurement of distance from the source)

8) Lateral and Horizontal cassette holder

9) Breast treatment cone

10) Remote field indicator

11) Automatic multi-portal treatment mechanism

3. Therapy Planning Unit

1) Stand

Floor-pendulum center distance: 120 cm

Focus-pendulum center distance: 65 - 100 cm variable

Image-pendulum center distance: 10 - 55 cm variable

Film-pendulum center distance: 4 - 49 cm variable

Pendulum angle: ± 180 degrees

Pendulum speed: 360 degrees/1.2 mm min.
at 50 Hz.

- 2) Spot-film device
- Film size: JK 11 x 14
- Grid ratio: 8 : 1
- Number of Films: 2 continuous
- 3) Power supply: AC 220V 1 ϕ 1 KVA 50/60 Hz.
- Total weight: approx. 800 kg.
4. Rotating Anode X-ray Tube
- 1) Max. operating voltage: 150 KVP
- 2) Projected focal spot size: 1.0 mm x 1.0 mm & 2.0 mm x 2.0 mm
- 3) Anode heat storage capacity: 140,000 H.U.
- 4) Max. continuous load: 340 H.U. at 2 mm x 2 mm
- 5) Target angle: 18°
- 6) Focal track dia.: 58 mm
- 7) Inherent filtration: 2 mm Al
- 8) Radiation field: 35 x 35 cm² at 65 F.F.D.
5. X-ray Beam Collimator
- 1) Max. operating voltage: 150 KVP
- 2) Max. radiation field: 35 x 35 cm
- 3) Rotation of radiation field: 360°
- 4) Multi-leaf: 4 vanes
- 5) Control: Motor-driven
6. Pair of High Tension Cable
- 1) Electrical shockproof type
- 2) FSC cable heads both ends

3) Length to permit unencumbered operation

7. X-ray High Tension Unit

Rating

Single phase full-wave rectifying system

X-ray tube tension: (KV) 125 150 120

X-ray tube current: (mA) 500 300 10

Power Source

Type: single phase AC

Frequency: 50 Hz.

Standard voltage: 200 V

Maximum allowable voltage: 260 V

Minimum allowable voltage: 200 V

Power source impedance: less than 0.06 ohm

Range of the tube current selector

Tube 1 : 5, 10, 20, 30, 40 mA

" 2 : 10, 20, 50, 100, 200, 300, 400, 500 mA

Tube 1 for fluoroscopy and spot-filming

Tube 2 for general radiography

Fluoroscopy ca. 0.3 - 10 mA continuous

Range of the tube tension adjustment

Radiography 40 KV - 150 KV

Radio, Major 13 KV 13 steps

Radio, Minor 1 KV 13 "

Fluoroscopy 50 KV - 120 KV continuous

Range of the time adjustemnt

24 steps of

0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.1, 0.12, 0.15,
0.2, 0.25, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0, 5.0,
7.0, 15.0 sec.

8. Image Amplifier

Rating

1. Nominal entrance field size 230 mm (9") at the input screen
2. Image minification: Abt. 10
3. Output image size: 23.5 ± 1 mm
4. Anode voltage: 25 - 30 KV
5. Conversion factor: 75 (cd/m^2) (mR/s) or more
6. Resolution: 27.5 Lp/cm (center)
25 LP/cm (periphery)
7. Brightness distribution: More than 70% (periphery)
8. Maximum distortion: Less than 5%

9. X-ray T.V. System

Rating

1. Number of scanning lines: 625
2. Synchronization: Asynchronous system
3. Frames per sec.: 30
4. Aspect ratio: 1:1
5. Resolution: 600 lines (horizontal)
6. Video signal output: 1.0 Vp-p (positive)
7. Video bandwidth: 6 MHz. min.
8. Patient monitor T.V.: with 9 inch monitor

Installation Requirement:

- a) Power source:
 - Single phase 220 volts
 - Three phase 220 volts
 - 50 Hz. 3 KVA

- b) Fluctuation allowance:
 - 180 - 260 volts

- c) Floor strength:
 - 2,000 kg./m² for Therapy unit
 - 650 kg./m² for Generator
 - 1,000 kg./m² for Planning

- d) Ceiling height:
 - 350 cm for Treatment room
 - 250 cm for Planning room

- e) Room space:
 - 6 x 7 meter for treatment room
 - 5 x 5 meter for planning room
 - 3 x 4 meter for control room

- f) Temperature: Max. 40°

- g) Humidity:
 - Max. 90%
 - But 80% or less desirable

9. Tray

10. Pus Basm

10 - 1 360 L x 65 D m/m RE 22A

10 - 2 300 L x 55 D m/m RE 22C

10 - 3 240 L x 35 D m/m RE 22E

11. Single Basin Solution Stand RE-123 + 125

Basin: 36 ϕ cm

10. Deep Therapy X-ray High Tension Unit

Consists of

(1) X-ray High Tension Unit, SHT250M-3	(1 set)
(2) X-ray Tube Stand	(1 ")
(3) Oil Pump for Cooling	(1 ")
(4) Oil Tube	(1 ")
(5) T-Shutter	(1 ")
(6) X-ray Tube Unit	(1 ")
(7) Treatment Cone	(1 ")
(8) High Tension Cable	(1 pair)
(9) Collimator	(1 set)
(10) Treatment Stretcher	(1 set)
(11) Spare X-ray Tube Insert	(1 pc.)
(12) Spare Parts	(1 lot)

Specifications:

1. Ratings

X-ray tube voltage	250 kV	200 kV
X-ray tube current	20 mA	25 mA
Time	0 - 60 min.	

2. Power supply

2.1 Line voltage	200 AC
2.2 Phase	Single phase
2.3 Cycle	50 or 60 Hz
2.4 Supply capacity to be prepared	more than 10 kVA

3. High tension generator

This unit uses Bawer's connection used four rectifiers, four condensers, that is, four times voltage rectifying circuit, and

D.C. output is connected to the X-ray tube.

The filtered condensers have sufficient capacity to limit the output ripple to 10% at rated loading 200 kV, 25 mA.

4. Control

- a) Automatic tube voltage stabilization
- b) Automatic tube voltage increasing system
- c) Automatic tube current stabilization
- d) Automatic exposure registration by the specified filters
- e) Safety device

Q. NURSING

1. Clinical Thermometer

2. Oxygen Inhalor Apparatus & Mask

3. Instrument Cabinet

Dimensions: 920 W x 450 D x 1,800 H m/m

4. Refrigerator

Outer demension: 700 W x 476 D x 1,675 Hmm

Capacity: 230 lit

Inner dimensions: 620 W x 330 x 1,150 mm

Chamber: Stainless steel

Door: Sliding door, glass (4 pcs.)

Shelves: Aluminum (5 pcs.)

Provided with: Temperature Recorder

5. Stretcher

Dimensions: 650 W x 1,800 L x 755 H m/m

Caster wheel size: 125 ϕ mm

Steel

6. Wheel Chair

Convertible

Dimensions: 610 W x 1,080 L x 950 H m/m

Fold in 280 W

Size: Adult

7. Stomach Irrigator

200 ml

8. Irrigator Stand

Caster wheel size: 75 φmm

Double

Stainless steel

R. PHARMACY

1. Water Still (L)

This still produces distilled water for parenteral and irrigating solution; for analytical chemistry and for other procedures requiring highly purified water.

This unit, its main part, is made of stainless steel. Employing balance distillation system, it produces pyrogen-free distilled water.

This unit is to be operated automatically and distillate quality meter is equipped to check the quality of water to be produced.

Required facilities

* Steam Supply:	15A, pressure 3.0 - 5.5 kg/cm ² consumption 70 kg/hour
* Water Supply:	15A, pressure 2.0 - 5.5 kg/cm ² consumption, 900 lit./hr
* Exhaust:	15A
* Drain:	40A
* AC Power:	AC 200/220 1ϕ 0.5KW
Overall Dimensions:	305W (tank) x 530 D x 1,650 Hmm
Installation space:	840 W x 730 D x 2,100 Hmm (upto ceiling)
Capacity:	Rated capacity 35 lit./hr.
Distillate quality:	more than $200 \times 10^4 \Omega\text{cm}$ (The quality changes due to the quality of supply water, supply pressure, steam supply pressure, and other conditions of facility. We take $150 \times 10^4 \Omega\text{cm}$ value as standard.)
Net Weight:	approx. 90 kg
Gross Weight:	approx. 135 kg

2. Storage Tank (L)

Overall Dimensions: 405 W(tank) x 530 D x 1,590 Hmm
Installation space: 940 W x 730 D x 2,000 Hmm
Capacity: 50 lit.
Material: Stainless steel, 1.5 mm thickness
Water Level Control: Float system control
Water Level Gauge: Glass tube
Filter: Over 0.08 μ 100%
Over 0.008 μ ... 99%

Equipped with Auto-drain system

Net Weight: approx. 25 kg
Gross Weight: approx. 45 kg

3. Automatic Water Softener (L)

Overall Dimensions: 360 W x 430 D x 810 H mm
Reverse Osmosis System: Automatically controlled by timer
Hardness Range: 500 ppm
Hardness to be eliminated: 500 g
Flow: 10 lit./min.
Net Weight: approx. 43 kg
Gross Weight: 77 kg

4. Water Still (S)

Overall Dimensions: 534 W x 398 D x 910 Hmm
Distilling capacity: 2 lit./hr.
Storage tank capacity: 20 lit.
Still Boiler: made of stainless steel
Still condenser: made of ultra hard glass

Water Supply: Pressure 1 - 3 kg/cm², Flow: 2 lit./min.
 Power Source: AC 200/220 1ϕ 50Hz. 1.6 KW
 Net Weight: approx. 25 kg
 Gross Weight: approx. 50 kg

5. Automatic Water Softener (S)

Overall Dimensions: 355 W x 169 D x 595 Hmm
 Hardness elimination: 100 g
 Flow: Standard 10 lit./min.
 Capacity: Supply water 3° dH 1.8 m³ per cycle
 Supply water 5° dH 1.1 m³ per cycle
 Water Pressure: 1.4 - 7 kg/cm²
 Net Weight: approx. 16 kg
 Gross Weight: approx. 29 kg

6. Refrigerator

Outer Dimensions: 700 W x 476 D x 1,515 Hmm
 Capacity: 230 lit.
 Inner Dimensions: 620 W x 330 D x 1,150 Hmm
 Chamber: Stainless steel
 Door: Sliding door, glass (4 pcs.)
 Shelves: Aluminum (5 pcs.)
 Provided with: Temperature Recorder
 Electric Consumption: 2,500 W
 Net Weight: approx. 80 kg
 Gross Weight: approx. 140 kg

7. Automatic Pulvers Packing Machine

Outer Dimensions: 88 W x 44 D x 90 Hcm
Packing speed: 30 packs/min.
Capacity: 1 - 30 packs
Electric Consumption: 300 W
Net Weight: approx. 56 kg
Gross Weight: approx. 95 kg

8. Balance

Counter Balance

Capacity: 100mg
Sensitivity: 5mg

9. Mortar and Pestile

Large

Small

10. Drung Cabinet

Outer Dimensions: 664 W x 240 D x 587 Hmm
Capacity: 3 rows x 4 lines
Provided with: Two rotary drawers
Net Weight: approx. 15 kg
Gross Weight: approx. 27 kg

6. High-cut filter:	0.1, 10, 30, 100 (Hz), 1, 3, 10, 30 (KHz), -3 dB.
7. Hum eliminating filter:	50 or 60 Hz, -30 dB
8. Noise:	3 μ V p-p (1 to 60 Hz). 5 μ V p-p (80 Hz to 10 KHz).
9. Output impedance:	100 Ω or less
10. Output voltage:	\pm 5 V
11. Calibration signal:	20, 50, 100, 200, 500 μ V. 1, 2, 5, 10, 20mV (Interlocked with sensitivity selector.)
12. Time measurement:	0 to 9.9 msec. 0 to 99 msec.
13. Scope raster:	OFF, 4, 8, 16, 32 and 64
14. Timing mark:	1, 10 and 100 msec
15. CRT used:	5-inch circular type
16. Sweep method:	Normal and automatic
17. Sweep time:	1 sec, 0.1 sec, 10 msec, 1 msec, 0.1 msec/division
18. Power consumption:	Approximately 40 VA
19. Leakage current:	100 μ A or less
20. Dimensions:	43 wide x 21 high x 55 deep (cm).
21. Net weight:	Approximately 30 kg.
22. With Mobil Stand:	
Dimensions:	57 wide x 80 high x 60 deep (cm)
Approximately:	30 kg

[2] Specifications of Electronic Stimulator

1. Control

- ° Preset counter: 0 to 99
- ° START/STOP: This controls start and stop of the whole system

- ° SINGLE/DOUBLE: A single pulse or double pulses can be selected by pushing the Ω or $\Omega\Omega$ push-button
- ° Trigger mode: Internal trigger. AUTO by external trigger. SET by external trigger.

2. Time setting section

- ° Reference clock frequency: 10 MHz \pm 0.2%
- ° Oscillating rate: 100 μ s to 9.9 sec
- ° Delay time: 10 μ s to 9.9 sec.
- ° Duration: 10 μ s to 9.9 sec.

3. Stimulus modes

- o NORMAL: Pulses generated in this unit can be directly outputted
- ° MIX: Internal pulses mixed with an external input signal can be outputted.
- ° MOD: Internal pulses amplitude-modulated by an external input signal can be outputted.
- ° DIRECT: An external input signal can be directly outputted.
- ° DC: A DC signal can be outputted whenever the pushbutton is depressed.

4. Input section

- ° Input for trigger:

Voltage:

- Maximum input voltage: +200 V
- Minimum input voltage: + 1 V
- Pulse width: 10 μ s or over
- Rise time > DC

Contacts: Make and break of contacts

- ° Input impedance: 100 K Ω
 - ° Hysteresis: Approximately 100 mV
5. Output section
- ° Rate pulse and delay pulse:
 - Output impedance: Approximately 500 Ω
 - Rise time and fall time: 0.1 μ s or less
 - ° Output for isolator and CHECK output:
 - Output voltage: \pm 10 V (max.)
 - Output current: \pm 5 mA (max.)
 - Output impedance: Approximately 50 Ω
 - Rise time and fall time: 2 μ s or less
 - Amplitude control: 0 to \pm 10V, accuracy: \pm 3%/F.S .
6. Power requirements 100, 117, 220, or 240 V AC, \pm 10%.
50/60 Hz, approximately 50 VA.
- ° Power supply for charging battery for isolator: +7 V, 1A limiter provided
 - ° Leakage current: 50 μ A rms or less, double-insulated power transformer provided
7. Dimensions and net weight 426W x 100H x 233D mm, approximately 6 kg
8. Environmental
- ° Temperature: 10°C to 40°C
 - ° Humidity: 30 to 85%

[3] Specifications of High-Voltage Isolator

- | | |
|---------------------|---|
| 1. Isolating method | Double-shielded output transformer |
| 2. Output | 0 to 350 V |
| Pulse width: | 50 μ s to 1 ms |
| 3. Output control | 4-step selection of 1, 10, 100, and 350 V |
| Accuracy: | $\pm 5\%$ /F.S. |
- Output may be continuously variable by adjusting the AMPLITUDE control.
- | | |
|--------------------------------------|------------------------|
| 4. Output impedance | 3 K Ω |
| 5. Isolation | |
| ° Insulation: | 100 M Ω or over |
| ° Capacitance to ground: | 200 pF or less |
| ° Output ON/OFF switch provided. | |
| ° Polarity selector switch provided. | |

[4] Data Projector

Spec.

Light Supply	AC 125V Tungsten Bulb
Bright Controller:	Continuous Variable
Data Card:	7 x 30 (m/m) 4 sheets
Shade Card:	1 sheets
Power Source:	AC 125V 0.1A

[5] Polaloyde Camera

Spec.

Lens:	C.R.T KING 75 m/m f3.5
Shatter:	T.B. 1, 2, 4, 8, 15, 30, 60, 125, with x point
Film:	8 sheets
Magnification:	0.8 ~ 1.0

Outer Dimension: 17 Wide x 12 High x 17.5 Deep (cm)
Weight: 1.1 kg

3. Electroencephalograph

- Specifications -

Number of channels:

12 EEG, 1 ECG & 1 timing channels

(NOTE)

- 1) ECG channel is not only for ECG but for Respiratory Curve, EOG and EMG as well. The Resp. Curve may be superimposed on tracing of any of the other phenomena.
- 2) On the Timing Channel, 1/10 sec. and 1 sec. timing marks and montage marks at every 20 sec. are traced as positive-going waves, while, photic stimulation and event marks are traced as negative-going waves.

Maximum sensitivity: 1mm deflection/0.7 μ V input
Sensitivity control: 5-position master control (5, 25, 50, 100 & 200 μ V/5mm and 7mm through push-button selection.)
Max. pen amplitude: \pm 11mm
Linearity: 2%/ \pm 100mm
Frequency response: DC \sim 100Hz., \pm 10%
Time constant: 3-position master selection (0.1, 0.3 & 1.5 sec.)
High-cut filter: Master selection (30Hz and 15Hz)
Hum Filter: Hum reducible to 1/15
Common mode rejection: 80dB (20,000:1)
Calibration voltage: 50 μ V
Free selector: 24-position switches for individual lead selection

Master pattern selector: For selection of up to 6 pre-wired montages

Electrode impedance: By AC measuring system

Inst. switch: Eliminates recovery time from blocking or severe artifacts, either automatically or manually. Interlocked with Paper Feed Lever, Input Selector, Master Pattern Selector and Time Constant Selector.

Photic stimulation:
 Stimulating frequency 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 24 and 30 Hz.
 Stimulating energy 0.5 Ws/Pulse
 Automatic switching of frequencies The stimulating frequencies may be automatically switched in incremental turn to give pre-programmed stimuli in succession at a pre-set interval. In our standard system, all the 17 frequencies are inplant-programmed for automatic switching. This inplant-programming may easily be modified by users to eliminate any of the 17 frequencies from the programmed group.

Digital Clock: Indicates elapsed time of up to 9-min. 59-sec. (Stays at rest, when the MEAS. TIME push button is depressed)

Preamplifier outputs: Two individual jacks. ± 10 mm pen deflection gives output of ± 1 V. Output impedance: 50Ω

Recording mode: Ink-writing, curvilinear

Recording paper size: 335mm wide and 300m to 1000m long

Paper speeds: 0.75, 1.5, 3 and 6cm/sec (and Approx 1.5mm/sec when no speed selector button is depressed)

Blank paper feed: By push-button

DC input: Input voltage of ± 1 V gives ± 10 mm pen deflection
 Input impedance: $1M\Omega$

Power requirement: AC mains, 50/60Hz., 130VA (1A74)

Dimensions & Weight: 1130(W) x 960(H) x 680(D)mm,
Approx. 110kg

Accessory

1. INPUT/OUTPUT BOX
2. PRINTED CIRCUIT BOARD 41482 for automatic selection of montages.

Max. programmable period: 29 minutes

Min. programmable period: 1 minute

4. Echo-Encephalograph

- Specifications -

(1) Basic Instrument

Method of examination:	1-probe or 2-probe, reflection or transmission.
Display:	A-scope, 2-channel or 1-channel, direct read-out of real distance possible (approximate value)
Waveform recording:	Recording of waveform is possible either by an ink-writing, oscillograph or a camera hood for photographing the CRT image with a 35mm SLR or Polaroid R camera.
Remote control:	For selection of reflection or transmission method, noise suppressor and ink-writing oscillograph ON/OFF.
Measurable range:	2 ~ 24cm in living body.
STC.:	Fixed, ON/OFF
Cathode-ray tube:	130mm, round
Test frequency:	2MHz
Repeating frequency:	1kHz per channel
Power supply:	100, 115, 220, 230, 240V, 50/60Hz, Approx 20VA

Outer dimensions: 164(H) x 294(W) x 410(L)mm

Net weight: Approx 8kg

(2) Ink-writing Recorder

Employs a sampling circuit which permits the ink-writing oscillograph to trace the echogram at a speed 1/10000 slower than actual scanning.

a) Sampler: Outer dimensions... 30 x 137 x 114mm (To be built in the basic instrument UE-103).

b) Oscillograph:

Type: Ink-writing

No. of channels: 2

Maximum pen amplitude: ± 20 mm or more

Recording chart: 110mm wide, 80m long

Chart speeds: 25, 50 or 100mm/sec

Voltage measuring range: 0.5, 1, 2.5 and 5V/cm... 4 range

Input circuit: Single-ended

Input impedance: 100k Ω or more for each range

Frequency response: Within - 20% in 0 to 50Hz (when measured with amplitude of 30mm peak-to-peak)

Gain control: x 1 to x 2 (in each range)

Zero position: Adjustable to any point in the full scale

Chart feed: Stabilized to constant speed within 0.2 second after switching on.

Chart feed remote control: By means of a foot switch

Power supply: 100, 115, 220, 230, 240V
50/60Hz, 60VA

Outer dimensions: 160(H) x 237(W) x 400(L)mm

Net weight: Approx. 12kg

(3) Mobile Stand (option)

Outer dimensions: 810(H) x 610(W) x 500(L)mm

Net weight: Approx 24kg

Accessories

1. Ink-writing Oscillograph

Sampler (To be built in the Echo-encephalograph)

Foot switch (For remote control of recorder.)

2. Polaroid R camera with camera hood (For photographing echogram.)

3. Mobile stand

I. MEDICAL EDUCATION

1. Handy Type TV Camera
2. Monitor TV 18 inch
3. VTR
4. Monitor Table
5. VTR Cassette Tape
6. Slide Projector
7. Overhead Projector
8. Slide Corder

U. MISCELLANEOUS

1. ARTIFICIAL KIDNEY

1. Coil Canister

- 1. Dimensions: 375 W x 400 D x 550 H
- 2. Power Source: AC 220V 6A

2. Blood Pump

- 1. Dimensions: 330 W x 220 D x 907 H
- 2. Power Source: AC 220V 1A

3. Infusion Pump

- 1. Dimensions: 120 W x 315 D x 160 H
- 2. Power Source: AC 220V 0.15A

4. Negative/Positive Pressure Monitor

5. Bubble Detector

- 1. Dimensions: 100 W x 140 D x 235 H
- 2. Power Source: AC 220V 0.15A

6. Dialysate Meter

7. Bedside Monitor

- 1. Dimensions: 480 W x 365 D x 375 H
- 2. Power Source: AC 220V 7.5A

8. Central Supply System

Water Supply System

Control Timer System

Sub Supply System

9. Scale Bed

Digital Type

10. Motor Drive Chair

2. Ambulance

Long Chassis Van, Right hand drive

Completely built-up (C.B.U.) Conditions

- Engine, Gasoline 6 cylinder water cooled with tropical radiator
OHV. approx. 4,230cc 128 HP (net) /3,600 RPM
- Transmission forward 4 speed, 1 reverse 2nd & 3rd gears synchromesh,
four wheel drive, shifting lever on floor.
- Transfer case 2 speed
- Body & Chassis steel, Hand Top, latest design 2 doors each side with
wind-up window type, swing-out rear door well upholstered seats
for travel on rough roads provided with windshield wiper, Horn,
out side rear view mirrors, spare tire is mounted under floor
of rear gate, equipped standard tools.
- Electrical system, Tropicallly insulated with 12 volt battery,
starter, alternator and other standard equipment.
- Suspension, Heavy duty semi elliptic leaf springs front and rear with
double acting shock-absorber.
- Braking system Foot brake. hydraulic internal expanding drum brakes
operating on all wheels, parking brake mechanical brake
operating on propeller shaft.
- Wheel and tires Ventilated disc dual purpose highway and Cross country
700 x 15 6 PRY
- Front bumper, Heavy duty channel type, galvanized with the hook
- Wheel base approx. 2700mm
- Ground clearance approx. 210mm

Equipments

Motor Siren (5 inch), Fire Extinguisher, Sub Stretcher
Bed with Stretcher, Red Rotary Lamp

Hand Lamp, Medicine Box, Resuscitator, Ventilator (with or less electric
fan), Curtain, Spot Light, Red Cross Mark, Marker Lamp, Water Tank
(Approx. -4L), Basin

3 LABORATORY EQUIPMENT

3-1 Breakdown of Laboratory Equipment

I. Clinical Chemistry

Item	Description	A.B	C	D
Spectrophotometer	Visible wave length range only. Grating colorimeter - wavelength up to 340 ~ 700nm, tungsten lamp Round-type cubett, slit: less than 20mm, meter; (OD)E & T%	1	1	1
Multipurpose semi-automatic analyzer	To be supplied to all D class hospitals *Semiautomated machine constitutes of filter type colorimeter, incubator, digital recorder, printer and timer (small type). Simple measuring instrument requiring no special reagent.	1	1	1
Centrifuge	With 20 tubes, for A, B class, 8 tubes for C class & 4 tubes for D class	2	1	1
Electrophoresis apparatus	For cellulose acetate. plastic electrophoresis box (cover glass), platinum electrode, pipet (graduated in 0.001ml, constant voltage 100mA, 300V Dyeing vat, 24 x 24 x 4.5 cm poncew-3R dye, buffer	2		
Densitometer for protein fractionation	For cellulose acetate. For oxide membrane, equipment with printer & digital printer.	1		
Water bath	Simple type, temperature range: room temp. to 70°C, Temperature accuracy ±0.2°C, 0.5kw. jet-flow circulating type.	1	1	1

Item	Description	A.B	C	D
Direct vision balance	Sensitivity: 1mg, 0.5mg. Weighing capacity 200g, sensitivity 0.5, 1mg, projected scale of measuring range 0-1g, with revolving door, digital display.	1	1	
Digital balance	Sensitivity 50mg. Balance weights: 0.1, 0.25, 0.5, 1, 2, 5, 10, 20, 50g.	1	1	
pH meter	Glass electrode, comparison, calibration electrode pH scale graduated in 0 to 14pH, graduation width 1/10pH.	2	1	1
Chloride meter	(Only one Japanese supplier available)	1		
Flame photometer	Propane gas digital display, without sampler Compressor for measurement of serum Na, K.	1	1	
Desiccator	For desiccant. Separate type, inside dia. 45x60cm, made of glass, with suction parts. (suction cock)	3	2	1
Rotary pump	Vacuum pump (small, rotary), displacement approx. 100-200 l/min, pressure up to 10^{-4} , 0.4-0.6kw.	1		
Dry oven (large)		1		
Dilutor	Syringe type volume variable type, up to 0.2-5ml.	1		

2. Microbiology Equipment (including serology)

Item	Description	A.B	C	D
Incubator	<p>37°C Large Approx. Exterior painted steep plate 100x50x100cm - 1.5 kw 3 stage</p> <p>Small Approx. Interior stainless steel, 60x50x50cm ±0.5°C, 1.0kw 2 stage</p> <p>Glass inner door, Bimetal thermostat.</p>	2	1	1
Dry oven	<p>50-60°C. Approx. 70x50x60cm, bimetal thermostat, 1.0-1.5kw stainless steel, 2-stage partition.</p>	1	1	1
Sterilizer (dry air)	<p>Approx. 60x40x40cm or 70x50x60cm. Exterior asbestos, steel plate, up to 300°C, 2 stages with shelf boards and base (legs), gas or electricity (1.5-2.2kw)</p>	1	1	1
Autoclave	<p>Inside 35x60cm dia. (content) with safety device approx. 1.5-2.0kw, either round or square type may be supplied.</p>	2	2	1
Platinum wire loop		10		
Glass plate for VDRL	<p>6 holes, 1 sheet.</p>	10	5	5
Plastic plate for HB antigen	<p>For examination of HB antigen. (Note) Depends on availability of import and storage of reagents ----- However, supply should be considered because each hospital requires examination of HB antigen.</p>	10		

Item	Description	A.B	C	D
Rotator shaker	For VDRL. For syphilis examination.	1	1	1
Blood typing view box	For Rh. Approx. 15x15x30cm, fluorescent lamp, frosted glass, 100w	1	1	
Shimmel bush type sterilizer (table)	Electric. Approx. 20x20x30cm, 500w	1		
Alcohol lamp		5	5	5
Glass capillary tube	For Ht. Heparin coated.	100x200	100x100	100x50
Water aspirator	Plastic. Plastic with rubber hose, directly connected with tap.	3	3	3
Dry oven (small, electric)	30x30x30cm 0.5-1.0kw	1		
Dark field condenser	Absorbance factor approx. 75-90%		1	1
Automatic blood cell count	Determination of white and red cells with dilutor dilution cups - 1,000	2		

3. Hematology & Urinalysis Equipment

Item	Description	A.B	C	D
Microscope	Binocular discussion. Objective: 40x, 20x, 100x, ocular: 10x, 4-13ms tube kehler illumination apparatus with transformer: revolver 4 holes, with complicated mechanical stage	2		
Microscope	Monocular. Objective: 20x, 40x, 90x, ocular: 10x, single lens tube, with complicated mechanical stage, without light source, mirror	20	6	3
Microscope	Phase contrast. Phase ring, objective lens: 40x, 20x turret condenser 4 holes	1	1	
Capillary centrifuge for hematocrit	Accessories (SC-01, CC-01, CT-01). Capillary centrifuge for Ht (3 suppliers)	1	1	1
Spectrophotometer	Exclusively for Hb. Filter 540nm, filter interference, round-type cuvet tungsten lamp 306V	1	1	1
Hemocytometer:	Burker-Turk type	5	3	
Hemocytometer	Fuchs-Rosenthal type	1	1	
Stand for red cell sedimentation rate test	For 10 tubes (with pipet)	5	5	5

Item	Description	A.B	C	D
Prothrombin meter		1		
Refractometer (for serum protein)	15°C standard, for urine specific gravity and for serum protein scale, handy type	1	1	1
Water bath (37°C)	10x10x30cm, small size, with 37°C jet flow agitator	1		1
Calculator		10	3	3
White cell calculator	Periheral to bone marrow. 12 key, manual, small size	3	2	1
Melanjeul washer	Rubber product	3	2	2
Melanjeul	Hb	20	10	
Melanjeul	White blood cell	20	10	
Melanjeul	Red blood cell	20	10	

4. General Equipment

Item	Description	A.B	C	D
Refrigerator	200 lit capacity, with freezer. Content 0°-8°C	5	4	2
Distillater	Refer to Medical equipment R. 1.2.3.	1 Except P.S.		
Distillater	2 ℓ/h kerosene, Table type, 1 ℓ/h, 2 ℓ/h, inside copper or stainless steel, outside asbestos or steel plate, glass cooling tube	1	1	1
Timer		2	1	1
Stop watch		2	1	1
Test tube stand	For medium scale test 2 x 10, 18mm - ordinary glass	20	15	10
Test tube stand	For small scale, 4 x 10, hard glass	40	15	10
Test tube stand	For small scale, 2 x 10, hard glass	20		
Basket for test tubes	Square type 21cm, stainless steel	20	10	10

Item	Description	A.B	C	D
Pipet washer	20x25cm dia x 50cm, outer tube glass, inner tube plastics, siphon type	4	2	2
Washing brush	Large	10		
Washing brush	Medium	20		
Washing brush	Small	10		
Thermometer for test	Mercury. 100°C Graduated in 1/10°C scale, length 20x30cm	2	1	1
Thermometer for test	Mercury. 300°C Graduated in 1°C scale, length 20x30cm	2	3	3
Thermometer for test	Alcohol. Graduated in 1/10°C scale, length 20x30cm	5	3	3

5. Laboratory Desk, Medicine and Instrument Shelves, Sinks and Work Benches

	Item	Measurement	Specification	B Class	C Class	D Class
①	Laboratory desk (large)	(W) (L) (H) 1800x1500x850	Top plate Sanseran 4mm, with drawers on both sides, and ceramic chemical sink on one side	5		
②	Laboratory desk (medium)	(W) (L) (H) 1800x1200x850	Top plate, Sanseran 4mm, with drawers on both sides, and ceramic chemical sink on one side		3	2
③	Laboratory desk along wall (large)	(W) (L) (H) 1800x750x750	Top plate, Sanseran 4mm, with drawers and shelved cabinets	14	6	3
④	Laboratory desk along wall (medium)	(W) (L) (H) 1200x750x750	Top plate Sanseran 4mm, with drawers and shelved cabinets		2	1
⑤	Medicine and instrument cabinet (pedestal mounted)	(W) (L) (H) 1800x300x900	Wooden, both sides, 2 stages	5	3	2
⑥	Medicine and instrument cabinet (Floor mounted)	(W) (L) (H) 1800x450x1200	Wooden, glass sliding doors at top, drawers and wooden sliding doors at bottom	6	3	3
⑦	Medicine and instrument cabinet (Floor mounted)	(W) (L) (H) 1200x450x1800	Wooden, glass sliding doors at top, drawers and wooden sliding doors at bottom			3

	Item	Measurement	Specification	B Class	C Class	D Class
⑧	Medicine and instrument cabinet (floor mounted)	(W) (L) (H) 1760x400x880	Metal, 2 stages, glass doors at top and metal doors at bottom	2	1	1
⑨	Unit sink (one-tank type, large)	(W) (L) (H) 900x750x850	Frame: particle board, melamine dressed plate Sink: stainless steel (SUS 304) with chemical faucet	7	5	2
⑩	Unit sink (one-tank type, medium)	(W) (L) (H) 600x750x850	Frame: particle board, melamine dressed plate Sink: stainless steel (SUS 304) with chemical faucet			1
⑪	Unit sink (three-tank type, large)	(W) (L) (H) 1500x600x850	Both frame and sink all stainless steel (SUS 304 1mm thick) with three swing faucets	1		
⑫	Unit sink (three-tank type, medium)	(W) (L) (H) 1200x600x750	Both frame and sink all stainless steel (SUS 304 1mm thick) with three swing faucets		1	1
⑬	Work bench	(W) (L) (H) 1200x600x800	All stainless steel	2	1	1

	Item	Measurement	Specification	B Class	C Class	D Class
(14)	Bookcase	(W) (L) (H) 1760x400x1850	Metal	3	1	
(15)	Unit shelf	(W) (L) (H) 1820x460x1810	Metal, 6 stages	2		

6. Glassware, reagent, other consumptions

Item		Quantity
Glassware measuring pipet	1.0 ml	100
	2.0	100
	5.0	10
	10.0	10
Vol pipet	1.0	10
	2.0	10
	3.0	10
	5.0	10
Ostward pipet	0.1	20
	0.2	20
	0.5	20
Komagome pipet	5.0	50
Pipet for sedimentation		100
Measuring flask (flat bottom)	20 ml	5
	50	5
	100	5
	1000	5
	3000	3
Measuring cylinder (with stopper)	50	5
	100	5
	500	5
	1000	5
Triangle colben	5000	3
	3000	3
	1000	5
	500	15
Reagent bottle (tinted)	300	15
	500	30
	300	50
	100	50
	1000	20
(white)	500	30
	300	50
	100	50
	1000	20

Item		Quantity
Petridish (for culture)		300
Dropping bottle	20 ml	5
Suction bottle	500 ml	2
Spitz glass	15 ml	200
Test tube (small)	÷ 15ml	3000
Test tube (8x15) (small)	÷ 8 ml	5000
Test tube (medium)	÷30 ml	500
Cover glass	18 x 18 mm	30
Cover glass (for blood cell count)	24 x 22 mm	100
Objective glass	(100 pcs)	200
Buchner funnel (130mm dia.)		1
Pestle		2
Flushing bottle, 500ml (polyethylene)		3
Reagent		
Standard solution Hb		20
Standard solution sugar 25 ml		10
Standard solution protein 3 x 4		10
Standard solution BUN 3 x 10		10
Standard solution U-A 3 x 10		10
Standard solution pure cholesterol 3 x 10		10
Na, K, Cl 100ml		Each 5 *
pH, 2 kinds		Each 3
Blood sugar (OTB kit)		10 kits
Uric acid *		10 kits
BUN		10 kits
Amylase		3 kits
GOT, GPT		5 kits
AL-P *		5 kits
LDH *		5 kits
Triglyceride *		5 kits
γ-GTP *		5 kits
Cholesterol		10 kits
Anti-CRP serum		10 kits

Item		Quantity
TOYO filter paper No.6		10 pcs
Sodium bicarbonate		500 g
Potassium cyanide		25 g
Potassium ferricyanide		25 g
Pooled serum		10 boxes
Ordinary agar medium		300g x 10
Heart infusion		300g x 5
Bile		10g x 20
Selenite		300g x 2
SS agar		240g x 2
Drigulski		300g x 2
MacConkey		300g x 2
TSI		300g x 2
LIM		60g x 2
SIM		300g x 2
Gelatine		100g x 5
Vibrio agar		300g x 5
TCBS agar		300g x 5
Mannit table salt		300g x 2
Thiamartin		100g x 2
CW agar		300g x 2
Dedoxycholate		300g x 2
BGLB		1
Sabraud		1

- Note:
1. For glassware, the quantities quoted are equivalent to more than one-year's requirements in B and C class hospitals (including test tubes). However, measuring vessels were quoted in minimum required stock quantities. (Hence, this applies to D class hospitals as well.)
 2. Quantities of reagents include those for practice and are to be supplied by supplier with photometers. Thus, the quantities quoted correspond to one year's requirements for laboratories in C and D hospitals. They will be enough for about six months in B class hospitals.
 3. Reagents marked * need not be supplied to D class hospitals.
 4. The same culture media should be supplied to all class hospitals subject to the condition that a microbiology section will be provided as a measure against infectious diseases. Even D class hospitals will require the culture media according to the situation of statistics on etiological cause.
 5. If the supplies are provided by this lists and the apparatus took their activities, the laboratory can be conducted for one year without any subsequent replenishment.

3-2 Adjustment of Quantity of Equipment to be Supplied to C and D Class Hospitals

	C Class Hospitals						D Class Hospitals									
	Tondano	Kotamobagu	Gorontalo	Pare Pare	Tartung	Kasaran	Lun Kendage	Palopo	Soppeng	Tenriawaru	Elim Kantepao	Bantaeng	Kantana Prapat	Tebing Tinggi	Tanjung Balat	Porsea
Centrifuge	0	0	0	0	0	0	0	0	-1	0	0	0	0	-1	0	0
Drying oven	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0
Microscope (monocle)	0	0	0	0	-2	-1	0	0	-1	0	0	0	-1	0	0	0
Microscope (phase)	0	0	0	-1	0	0										
Spectrophotometer	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0
Flamie photometer	-1	-1	-1	-1	-1	0										

Note: Minus figure indicates that the quantity should be reduced from the standard quantity when supplying the equipment. Hospitals with minus figures have either unused or newly procured equipment. The standard quantity will be supplied to hospitals with 0.

3-3 Additional Equipment for Medan Hospital

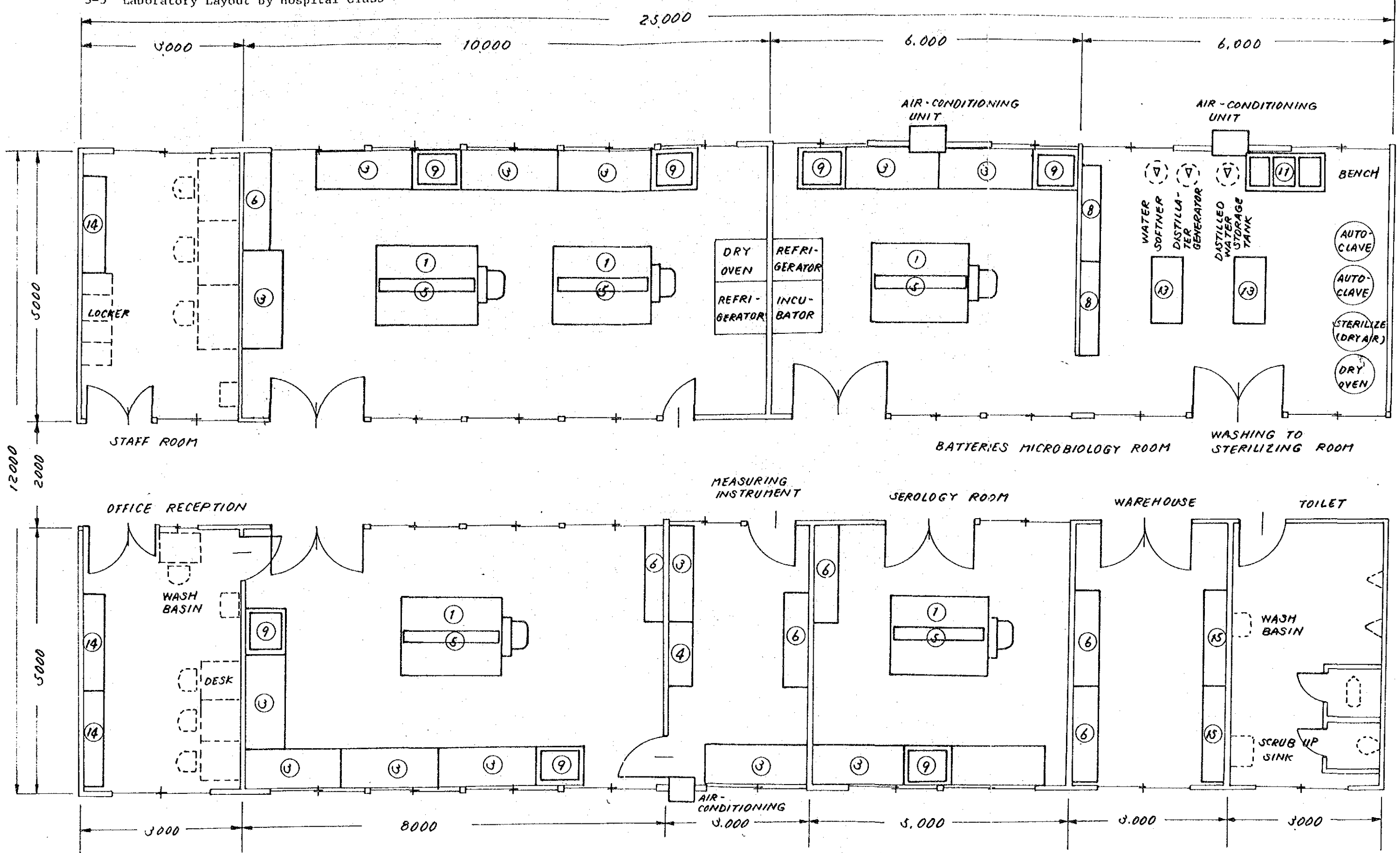
Item	Description	Qty
Package type refrigerating room	1.5kw, 6.6m ² , stainless steel exterior, prefabricated refrigerating room with air curtain, 3-stage shelf interior, ±1°C	1
Atomic absorption photometer	wave length range 190-900mm, digital display, with accessories. With lamp, and acetylene bombe	1
Mountury refrigerator	For two bodies.	1
Autopsy table	With faucet, sink and dissecting stand.	2
Autopsy apparatus	Various types of scalpels and forceps, electric saw, striker, pincette, scissors, etc.	2

3-4 Laboratory Space (Minimum Space)

	B Class	C Class	D Class
Hematology	} 60 m ²	} 35 m ²	} 20 m ²
Urinalysis			
Chemistry	} 70 m ²	} 20 m ²	} 10 m ²
estimating room *			
Bacteriology *	40 m ²	20 m ²	} 30 m ²
Washing Sterilysing *	40 m ²	20 m ²	
Serology	30 m ²		
Office	15 m ²	} 15 m ²	
Stockroom	20 m ²		
Officers room	15 m ²		
Total	290 m ²	110 m ²	60 m ²
Blood Bank	100 ~ 120 m ²		

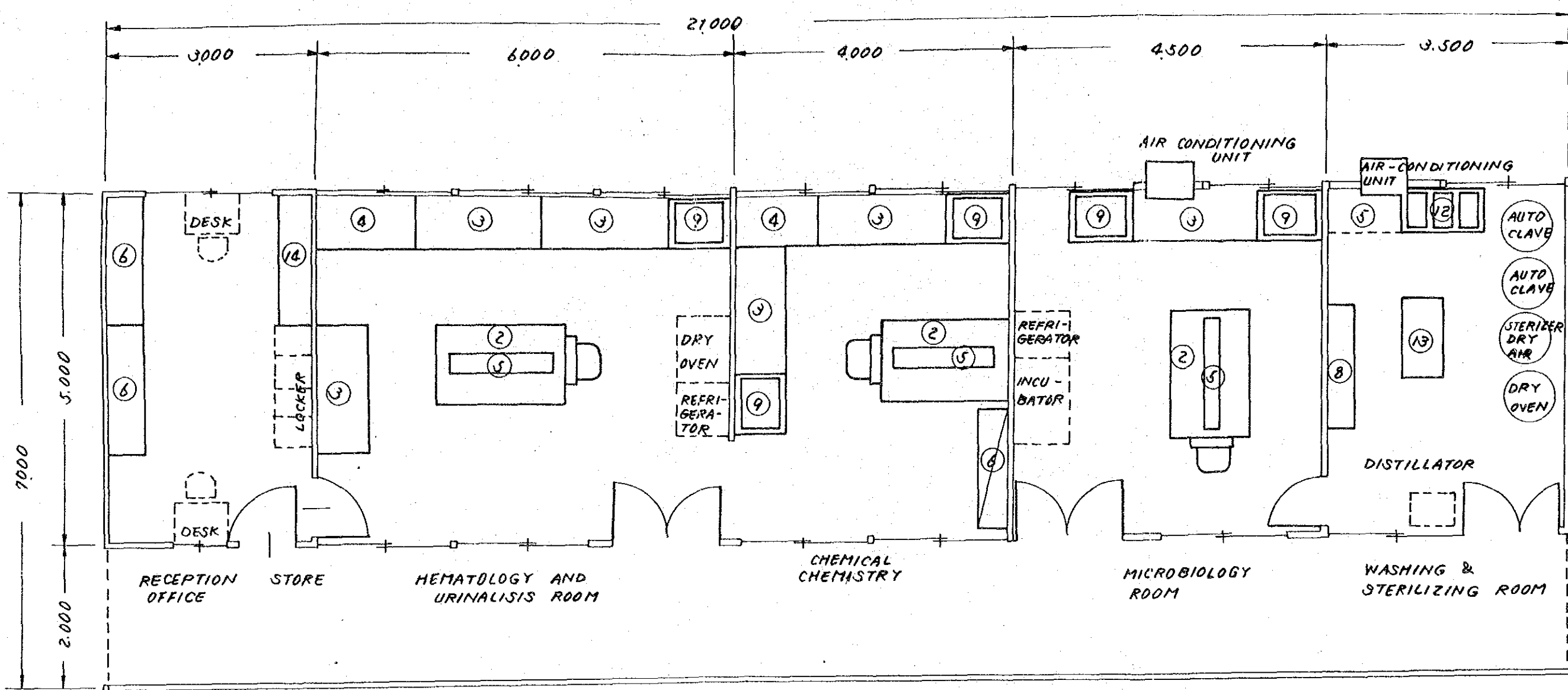
- 1) To be concentrated at one location in the hospital
- 2) Due consideration should be made to water supply, plumbing (gas piping too in B class) and wiring.
- 3) *Laboratories which require air-conditioning units (minimum)

3-5 Laboratory Layout by Hospital Class



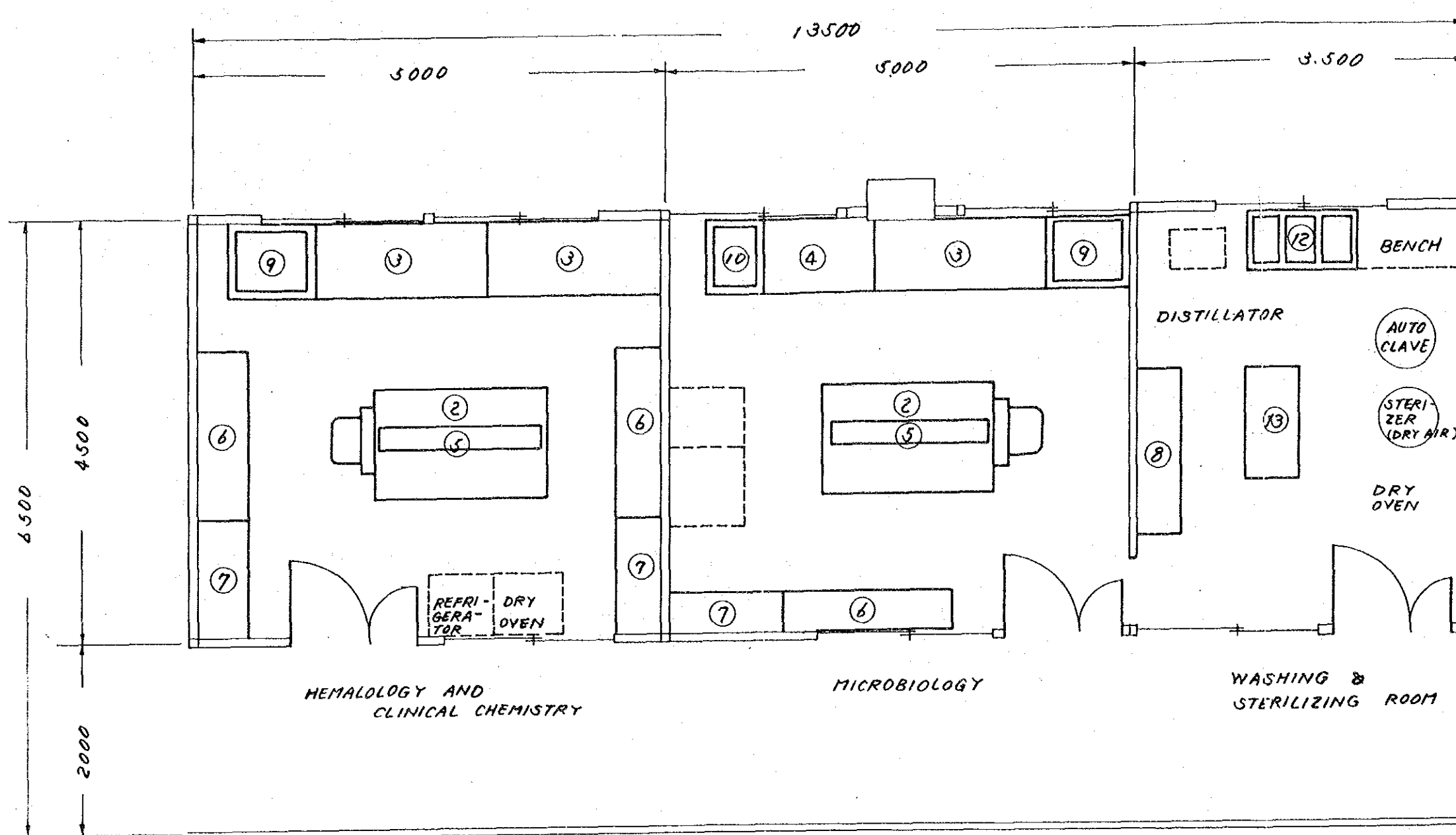
AREA	EXCLUDING CORRIDORS	25 x 10 = 250 m ²
	INCLUDING CORRIDORS	25 x 12 = 300 m ²

B CLASS
3-19



AREA	EXCLUDING CORRIDORS	21 x 5 = 105 m ²
	INCLUDING CORRIDORS	21 x 7 = 147 m ²

C CLASS



AREA	EXCLUDING CORRIDORS	$13.5 \times 4.5 = 60.75 \text{ m}^2$
	INCLUDING CORRIDORS	$13.5 \times 6.5 = 87.75$

D CLASS

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