KERALA MEDICAL SERVICES CORPORATION LTD
(A Government of Kerala Undertaking)
Thycaud P.O, Thiruvananthapuram - 14, Kerala.
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CIN: U24233KL200TSGC021616, PAN : AADCK4029M, GSTIN : 32AADCK4029M1ZK

Running Contract Details	
Equipment Name	CSSD
Running Contract Valid Till	21-02-2025
Tender Ref No	KMSCL/EP/T347/581/2019
Tendered Quantity	20
Supplier Name	M/s CL Micromed Pvt Ltd
GST No	07AAACC0979P1Z7
Installation & Delivery Period	15 Week(s)
Up-time / PM vist	95% & 4 Visits per year
Warranty period	3 Years

Supplier`s Details		
Address	**Contact Details**	
T-17 OKHLA INDUSTRIAL AREA PHASE.II NEW DELHI.11O O2O	Contact Person	Kamran Haider
	Phone	011-26387262
	Mobile No	9818567937
	Email	info@clmicromed.com

Item-wise Price Details

#	Item Details	Unit Rate (Incl.all taxes & charges)	Service Charges (Through KMSCL)	Grand Total
1	**CSSD**	0 Incl.GST :0%	0	0
2	**Double Door Steam Sterilizer 700 Ltr.**	4897000 Incl.GST :18%	342790	5239790
3	**Double Door Steam Sterilizer 400 Ltr.**	4454500 Incl.GST :18%	311815	4766315
4	**Washer Disinfector**	3835000 Incl.GST :18%	268450	4103450
5	**Ultrasonic Cleaner** *Model & Make : Elmasonic Med 300*	342200 Incl.GST :18%	23954	366154
6	**Table Top Sterilizer**	601800 Incl.GST :18%	42126	643926
7	**Drying Cabinet**	495600 Incl.GST :18%	34692	530292

Item-wise Price Details				
8	**Sealing Machine**	322140 Incl.GST :18%	22549.8	344689.8
9	**Gauze Cutting Machine**	49560 Incl.GST :18%	3469.2	53029.2
10	**Instrument washing Station**	194700 Incl.GST :18%	13629	208329
11	**Work Table for Dry & Wet Goods**	45843 Incl.GST :18%	3209.01	49052.01
12	**Packing Table with Two shelves**	93810 Incl.GST :18%	6566.7	100376.7
13	**Linen Inspection Table**	95580 Incl.GST :18%	6690.6	102270.6
14	**Closed Transport Trolley**	118000 Incl.GST :18%	8260	126260
15	**Double Column Basket Rack**	89680 Incl.GST :18%	6277.6	95957.6
16	**Mesh Rack**	57820 Incl.GST :18%	4047.4	61867.4
17	**Static Pass Box with electrical interlocking**	94400 Incl.GST :18%	6608	101008
18	**Sterilizing Wire Baskets - Big**	4088.7 Incl.GST :18%	286.21	4374.91
19	**Sterilizing Wire Baskets - Medium**	3593.1 Incl.GST :18%	251.52	3844.62
20	**Sterilization Container - Small**	47200 Incl.GST :18%	3304	50504
21	**Sterilization Container - Medium**	53100 Incl.GST :18%	3717	56817
22	**Sterilization Container - Large**	59000 Incl.GST :18%	4130	63130
23	**Stool (SS)**	3540 Incl.GST :18%	247.8	3787.8
24	**Instrument Tray - Big**	5699.4 Incl.GST :18%	398.96	6098.36
25	**Instrument Tray - Small**	5389.06 Incl.GST :18%	377.23	5766.29
26	**Cladding with service doors for Sterilisers**	14160 Incl.GST :18%	991.2	15151.2
27	**Storage cabinet**	118000 Incl.GST :18%	8260	126260
		16101403.26	**1127098.23**	**17228501.49**

Annual / Comprehensive Maintenance Charges (Exl.Tax)							
Rate	**4th Year**	**5th Year**	**6th Year**	**7th Year**	**8th Year**	**9th Year**	**10th Year**
Double Door Steam Sterilizer 700 Ltr.							
AMC	41,500.00	41,500.00	41,500.00	41,500.00	41,500.00	41,500.00	41,500.00
CAMC	1,24,500.00	1,24,500.00	1,24,500.00	1,24,500.00	1,24,500.00	2,07,500.00	2,07,500.00
Double Door Steam Sterilizer 400 Ltr.							
AMC	37,500.00	37,500.00	37,500.00	37,500.00	37,500.00	37,500.00	37,500.00
CAMC	1,13,250.00	1,13,250.00	1,13,250.00	1,13,250.00	1,13,250.00	1,88,750.00	1,88,750.00
Washer Disinfector							
AMC	32,500.00	32,500.00	32,500.00	32,500.00	32,500.00	32,500.00	32,500.00
CAMC	97,500.00	97,500.00	97,500.00	97,500.00	97,500.00	1,62,500.00	1,62,500.00
Ultrasonic Cleaner							
AMC	2,900.00	2,900.00	2,900.00	2,900.00	2,900.00	2,900.00	2,900.00
CAMC	8,700.00	8,700.00	8,700.00	8,700.00	8,700.00	14,500.00	14,500.00
Table Top Sterilizer							
AMC	5,100.00	5,100.00	5,100.00	5,100.00	5,100.00	5,100.00	5,100.00
CAMC	15,300.00	15,300.00	15,300.00	15,300.00	15,300.00	25,500.00	25,500.00
Drying Cabinet							
AMC	4,200.00	4,200.00	4,200.00	4,200.00	4,200.00	4,200.00	4,200.00
CAMC	12,600.00	12,600.00	12,600.00	12,600.00	12,600.00	21,000.00	21,000.00
Sealing Machine							
AMC	2,730.00	2,730.00	2,730.00	2,730.00	2,730.00	2,730.00	2,730.00
CAMC	8,190.00	8,190.00	8,190.00	8,190.00	8,190.00	13,650.00	13,650.00

Other terms & conditions

1. The supplier shall execute an agreement with the purchaser as per tender conditions (agreement format is given in the tender document).

2. The supplier shall submit performance security amounting to 5.00% of the value of the supply order.

3. The labour & comprehensive charges of equipment after the completion of warranty period is finalized by KMSCL as mentioned above.

4. Since discount rate is not applicable for equipment under Running Contract of KMSCL, purchase/supply order can be issued directly to supplier at the given rate with tax & other charges (exclusive of KMSCL service charges).

5. If purchase/supply order is issued directly to the supplier, KMSCL service charge need not be paid. But the copy of the said order may be forwarded to KMSCL for information.

Technical Specification

Equipment :CSSD

I GENERAL

1 Scope of Work

1 The work to be performed under this Contract consists of design, supply, construction, testing and commissioning of Central Sterile Supply Department (CSSD) in accordance with NABH Standards, Technical specifications and bill of quantities including necessary Turnkey work and providing warranty for thirty six (36) months from the date of commissioning including free routine and preventive maintenance services as per OEM standards.

2 The CSSD forms the backbone of any hospital with the responsibility to reprocess surgical and other re-usable instruments and plays a crucial role in infection control in hospitals in reducing Nosocomial infections in hospitals. The CSSD shall be designed scientifically in the available space and should have facilities to receive, wash, disinfect, pack, sterilize, store and distribute instruments to various departments and Operation Theatres. CSSD.

3 The design and construction of CSSD shall be with objectives of Infection control, promoting high standard of asepsis, facilitating coordinated services, ensuring maximum standard of safety, optimizing utilization with flexibility and staff time, optimizing working condition, ensuring functional separation of spaces, patient and staff comfort in terms of thermal, acoustic and lighting requirements, minimizing maintenance and regulating flow of traffic

4 On approval of submitted drawings, the successful tenderer shall supervise the works of pre installation requirements of CSSD department by providing necessary support to existing contractors of Civil, Electrical, Plumbing, Medical gas pipe line works, Air conditioning system and any other works as may be required for complete installation and trouble free functioning of the department. Tenderer shall also make necessary arrangements for the supply, testing, installation and commissioning of all equipments and furniture as per the tender conditions after completion of interior works.

I Double Door Steam Sterilizer – 8 STU

1 Should be fully automatic micro-processor controlled Horizontal Steam Sterilizer, with pre and post-Vacuum treatment and with Loading Equipment having chamber capacity of 8 STU or more.

2 The sterilizer should have inbuilt electric Steam Generator.

3 The sterilizer should have double door with fully automatic vertical sliding movement along with door safety features.

4 Pressure monitoring system should be available in the chamber to monitor the chamber pressure before opening of the door. Chamber should be completely depressurized before the door seal is retracted by vacuum.

5 Door chamber cannot be opened when chamber is pressurized.

6 A cycle should not start if the door is open or not properly locked.

7 The door seal should be made of silicon rubber & on commencement of the process the door gasket is pressed against the rear face of the door by Air or Steam to ensure the door remains closed during the process.

8 The chamber, doors and jacket should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor should be slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer protects the drain port from blockage by debris. The chamber should be mounted on a stainless steel framework with height adjustable feet.

9 The sterilizer jacket and doors should be completely insulated up to 80 mm chloride free mineral wool thereby keeping the autoclave cool on the outside. The insulation should be completely encased in removable rigid aluminium sheet housing.

10 The sterilizer should have an inbuilt steam generator of adequate capacity. It should be mounted under the sterilizer chamber & should be made of SS316L grade.

11 The steam generator should have insulation of upto 50 mm thick chloride free mineral wool with rigid aluminium sheet housing.

12 It should have built in over pressure safety valve. The heating element should also be made of stainless steel. It should also have the manual blow down valve. To make the sterilization process faster the capacity of the heating element should not be less than 40 KW

13 Sterilizer should be supplied with one shelf rack with shelves (carriage) and two fixed height loading/ unloading trolley

14 The piping system should be made of S.S. quality. All the process valves should be stainless steel & should be pneumatically operated piston valves for longer trouble free operations. All the non standard components should be non proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.

15 Electrical components including terminals & contactors should be housed in a tight cabinet while the other electrical component should be directly mounted on sterilizer.

16 The Sterilizers should have a High capacity efficient liquid ring type vacuum pump. It should be mounted on vibration isolator for quiet operation. It should be connected to condensers to assist air removal. It should also have low water level alarm to protect it from dry run

17 A disposable air filter (HEPA) should be provided for filtering the atmospheric air before entering in the chamber. The filter separation efficiency should be higher than 99.99% H14 for particle size less than 0.3µm

18 The Sterilizer should be equipped with Microprocessor PLC control system which is dedicated to control the sterilizer including Digital Input Output for Sterilizer control Analog measuring Inputs COM ports for printer & PC communications

19 The control system should be microprocessor based PLC system specially design for sterilization applications. Control system should have the “7 to 9” touch panel coloured display interface at operator loading side. It should show all the process parameters as well as should have the graphical representation. Apart from main PLC based control system the sterilizer should also have secondary independent monitoring & documentation system which constantly cross check the safety systems & time according to EN285 & EN 554 standards

20 The operator should be able to run only type tested cycles

21 Access to other functions such as setting parameters, calibration servicing and maintenance is controlled using pre-defined access level which prevents unauthorized access

22 The sterilizer should have at least 2 temperature sensors and 2 pressure sensors

23 The sensors should be PT 100 type sensors or better which conform to Class A of the IEC571 standard with accuracy of ± 0.1 degree C

24 The pressure sensor should have the accuracy 1% over the range of 0-6 bar

25 The Control System should have comprehensive alarm/alert systems which automatically trigger pre programmed information alerts (preventive maintenance schedule etc)

26 In the event of any deviation in the type tested cycle, the control system should register an Alarm

a The range of alarms should include

b Chamber High Pressure

c Low Water level in generator

d Generator high pressure

e Chamber Temperature sensor error

f Generator high temperature

g Water Pump operation time out.

27 The Control system should have independent PLC to monitor, compare all Critical parameters.

28 The Control system should continuously cross check the sterilizer safety system and the limits set as per EN 285 Standards.

29 The Sterilizer should be equipped with Alpha numeric printer which prints cycle performance data. The cycle information should include transition point, pressure and temperature, cycle start time; date both sterilizer and cycle number and any alarm that occurred during the cycle.

30 In case the printer runs out of paper in the middle of the cycle it should be possible to print the last cycle date after the cycle has been completed.

31 The sterilizer should have either RS232 or Ethernet port to facilitate connectivity for network applications and/or remote access applications.

32 The Sterilizer should have storage facility of minimum 10000 Cycles.

33 Sterilizer should have system for water saving to limit the water usage to save up to 45- 50% compare to the normal cycle.

34 The Sterilizer should be equipped with following 5 Pre programmed cycles.

a Wrapped Instruments, Porous load 134Ã¢Â•Â°C

b Heat Sensitive material, rubber, plastic, porous load 121Ã¢Â•Â°C

c Wrapped Goods, Textile load 134Ã¢Â•Â°C

d Bowie & Dick test.

e Automatic leak rate test

35 European CE issued by notified body & EN285 with Medical Device Directive 93/42 EEC as amended by Directive 2007/47/EC or US FDA Certificate.

36 Should be complied with PED 97/23 EC. Relevant documents to prove the same shall be submitted.

37 Should have EN ISO 17665-1: 2006, EN ISO 9001:2008, EN ISO 13485:2003, EN ISO 14001:2004. Relevant documents to prove the same shall be submitted

II Double Door Steam Sterilizer – 6 STU

1 Should be fully automatic micro-processor controlled Horizontal Steam Sterilizer, with pre and post-Vacuum treatment and with Loading Equipment having chamber capacity 6 STU or more. .

2 The sterilizer should have inbuilt electric Steam Generator.

3 The sterilizer should have double door with fully automatic vertical sliding movement along with door safety features.

4 Pressure monitoring system should be available in the chamber to monitor the chamber pressure before opening of the door. Chamber should be completely depressurized before the door seal is retracted by vacuum.

5 Door chamber cannot be opened when chamber is pressurized.

6 A cycle should not start if the door is open or not properly locked.

7 The door seal should be made of silicon rubber & on commencement of the process the door gasket is pressed against the rear face of the door by Air or Steam to ensure the door remains closed during the process.

8 The chamber, doors and jacket should be made of solid, high quality 316L Stainless steel. The chamber should be jacketed to ensure the temperature uniformity in chamber. The chamber floor should be slightly sloped towards an internal drain to facilitate drainage. A stainless steel mesh strainer protects the drain port from blockage by debris. The chamber should be mounted on a stainless steel

framework with height adjustable feet.

9 The sterilizer jacket and doors should be completely insulated up to 80 mm chloride free mineral wool thereby keeping the autoclave cool on the outside. The insulation should be completely encased in removable rigid aluminium sheet housing.

10 The sterilizer should have an inbuilt steam generator of adequate capacity. It should be mounted under the sterilizer chamber & should be made of SS316L grade.

11 The steam generator should have insulation of upto 50 mm thick chloride free mineral wool with rigid aluminium sheet housing.

12 It should have built in over pressure safety valve. The heating element should also be made of stainless steel. It should also have the manual blow down valve. To make the sterilization process faster the capacity of the heating element should not be less than 30 KW

13 Sterilizer should be supplied with one shelf rack with shelfs (carriage) and two fixed height loading/unloading trolley

14 The piping system should be made of S.S. quality. All the process valves should be stainless steel & should be pneumatically operated piston valves for longer trouble free operations. All the non standard components should be non proprietary & should be easily sourced. All the hot pipes should be properly insulated. Only the safety valves should be made of brass.

15 Electrical components including terminals & contactors should be housed in a tight cabinet while the other electrical component should be directly mounted on sterilizer.

16 The Sterilizers should have a High capacity efficient liquid ring type vacuum pump. It should be mounted on vibration isolator for quiet operation. It should be connected to condensers to assist air removal. It should also have low water level alarm to protect it from dry run

17 A disposable air filter (HEPA) should be provided for filtering the atmospheric air before entering in the chamber. The filter separation efficiency should be higher than 99.99% H14 for particle size less than 0.3µm

18 The Sterilizer should be equipped with Microprocessor PLC control system which is dedicated to control the sterilizer including Digital Input Output for Sterilizer control Analog measuring Inputs COM ports for printer & PC communications

19 The control system should be microprocessor based PLC system specially design for sterilization applications. Control system should have the “7 to 9” touch panel coloured display interface at operator loading side. It should show all the process parameters as well as should have the graphical representation. Apart from main PLC based control system the sterilizer should also have secondary independent monitoring & documentation system which constantly cross check the safety systems & time according to EN285 & EN 554 standards

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22 The sterilizer should have at least 2 temperature sensors and 2 pressure sensors

23 The sensors should be PT100 type sensors or better which conform to Class A of the IEC571 standard with accuracy of ± 0.1 degree C.

24 The pressure sensor should have the accuracy 1% over the range of 0-6 bar

25 The Control System should have comprehensive alarm/alert systems which automatically trigger pre programmed information alerts (preventive maintenance schedule etc)

26 In the event of any deviation in the type tested cycle, the control system should register an Alarm

a The range of alarms should include

b Chamber High Pressure

c Low Water level in generator

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e Chamber Temperature sensor error

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30 In case the printer runs out of paper in the middle of the cycle it should be possible to print the last cycle date after the cycle has been completed.

31 The sterilizer should have either RS232 or Ethernet port to facilitate connectivity for network applications and/or remote access applications.

32 The Sterilizer should have storage facility of minimum 10000 Cycles.

33 Sterilizer should have system for water saving to limit the water usage to save up to 45- 50% compare to the normal cycle.

34 The Sterilizer should be equipped with following 5 Pre programmed cycles.

a Wrapped Instruments, Porous load 134Ã¢Â•Â°C

b Heat Sensitive material, rubber, plastic, porous load 121Ã¢Â•Â°C

c Wrapped Goods, Textile load 134Ã¢Â•Â°C

d Bowie & Dick test.

e Automatic leak rate test

35 European CE issued by notified body & EN285 with Medical Device Directive 93/42 EEC as amended by Directive 2007/47/EC or US FDA Certificate.

36 Should be complied with PED 97/23/EC. Relevant documents to prove the same shall be submitted

37 Should have EN ISO 17665-1: 2006, EN ISO 9001:2008, EN ISO 13485:2003, EN ISO 14001:2004. Relevant documents to prove the same shall be submitted

III Washer Disinfector

1 The washer disinfector shall be suitable for cleaning and disinfection of surgical instruments / goods. The process shall include pre wash, detergent wash and hot water disinfection, rinse and drying cycles.

2 The unit shall be suitable for electrical operation and would be complete with water circulation pump, necessary valves & fittings.

3 It should be microprocessor based so as to ensure correct program sequence and irregularities or deviations which are displayed immediately.

4 Chamber Volume should be 200 to 250 L carrying minimum 08 Nos of standard DIN trays. The chamber and circulation piping should be made of S.S. 316L quality with electro polished washed surfaces. The chamber edges should not have the pockets & folds so

as to avoid bacterial growth. The wash chamber should also be fitted with bright light for clear visibility of the washing process. Chamber dimension should suit the capacity.

5 Washer should have following features:

a For shortest possible filling and draining phases, higher capacity quick opening valves should be used so that short total process time is achieved. The design should focus on saving the environment through reduced consumptions of all utilities.

b Cleansable spray arms should be located at the top and bottom of the chamber.

c Wash carts should be equipped with cleansable spray arms between each shelf so as to facilitate water to reach all the surfaces which needs to be cleaned.

d Injection wash carts should be automatically connected to water and drying air in order to clean and dry the inside of the tubular instrument.

e The drying air should be pre-heated.

f The washer should be equipped with independent temperature monitoring and validation test port.

g Data interface RS232 should be available.

h All electrical components should be easily accessible for easy service - ergonomic design.

i Washer should have a built in self-cleaning debris filter.

j Double door should be made of toughened glass for see through & should facilitate the loading process.

k The washer should have 2 dosing pumps with provision for 2 more in addition (detergent, alkaline & lubrication) for process chemicals, instrument lubricants / enzymatic cleaners

6 The washer should perform:

a Pre-rinses with cold water.

b Main washes with hot water (60C) and detergent.

c Final rinse with water (55C)

d Disinfection with hot water (85C)

7 Unit to have LCD display and operating console

8 Unit should feature safety measures such as:

a Automatic door lock.

b Automatic temperature regulation.

c Electronic adjustment of water level

9 The unit should also have an interface as standard for an optional batch printer. The unit should have storage capacity upto 20 programs.

10 The washer disinfector shall be supplied with MIC racks and 4 - 6 level racks for instrument tray, full size instrument tray as well as stop valves, anti-suction device and plastic water trap and other essential washing accessories required to complete the washing process

11 Should be supplied with min. 12 Nos. of DIN trays as standard supply for functional purpose.

12 Should supply consumables equivalent for 100 cycles along with the equipment

13 Should be US FDA/ CE issued by notified body

14 Should have EN ISO 15883. Relevant documents to prove the same shall be submitted

IV Table Top Sterilizer

1 Should have a capacity of 18 - 20 Litres (approximately)

2 The sterilizer should have a Rectangular/ Cylindrical chamber with maximum processing capacity per charge at least 3-5 S.S. trays of 325 x 185 x 15 mm size (±10%)

3 Table Top Sterilizers should be equipped with B-process, N-process as per latest EN 1306

4 Chamber should be made of S.S 316 & should comply the Pressure Equipment Directive (PED) & EN 13445 norms.

5 Chamber should have Stress & Fatigue analysis reports for material & construction of the pressure vessel.

6 Chamber should be equipped with electrically heated jacket for preheating on standby mode.

7 Chamber should have working pressure 2.2 bar & design pressure upto 3.8 bar.

8 Chamber should have minimum 10 years warranty or should confirm 44-50,000 process minimum life.

9 Should have horizontal sliding / hinged door and the doors should come with silicon elastomeric rubber gasket to withstand temperature upto 140°C & 2560 kg pressure

10 A disposable air filter should be provided for filtering the atmospheric air before entering inside the chamber. The filter separation efficiency should be higher than 99.998% for particle size less than 0.3µm

11 Should have following cycle programs

a 134°C Wrapped.

b 121°C Wrapped.

c 134°C Flash/Rapid open instrument cycle

d 134°C Textile

e 134°C Prions

f Test programs: Bowie & Dick, Leak Test.

12 Sterilizer should have inbuilt water reservoir with storage capacity up to 5 Ltrs.The water reservoir should have easy access for cleaning & to avoid bio film

13 Sterilizer should have inbuilt steam generator. Any additional feature such as energy storing system for sterilization loads in short time will be preferred

14 The control system should be microprocessor based PLC system specially designed for Sterilization applications. The control system should have CPU processor with battery back-up, Digital input/output controls, analog measuring inputs & COM ports for printer & PC connectivity.

15 Automatic process checking & failure correction should be possible by the control system. The range of alarm should include Temperature & pressure sensor failure, phase time-out, doors not properly closed, power failure (less than 10 sec should be ignored), continuous self-checking of all the safety devices, low water level etc. All the alarms should be audio-visual.

16 The sterilizer unit should included Rack with 3 - 5 levels & suitable size instrument trays should be the part of the supply for every

sterilizer. The Sterilizer should have water circulation system so that no drain point & fixed water inlets required

17 Should work on 230V, 50 Hz AC Supply.

18 Equipment should be European CE issued by notified body /US FDA certified.

V Drying Cabinet

1 The capacity of the Drying Cabinet should be approximately 275 – 300 L

2 The unit should have capacity to process 36 hoses in the same drying cycle.

3 The body of the unit should be made up of Stainless Steel 304.

4 The drying temperature inside the cabinet should be selectable to:

5 70°C – for tubing and sensitive plastic material

6 90°C – for instruments & other medical devices.

7 The drying time for the load should be selectable in intervals of 5 minutes. The temperature and remaining time should be displayed on the display panel.

8 The air should be heated by an electric heating element controlled and regulated by a precision thermostat. The cabinet should be provided with a built-in electric precipitator for cleaning of incoming air. Seperation efficiency should be 94 – 100% for particle size 0.01 – 5 µm.

VI Sealing Machine

1 Rotary heat sealers should provide validated sealing of sterilization bags and clear-view pouches (paper/plastic laminate).

2 It should be microprocessor-controlled.

3 The rotary heat sealer should give documentation of process parameters via an integrated printer and could be integrated with documentation system.

4 The ergonomically design should be tilted forward for increased user convenience and space saving installation.

5 The sealer housing should be powder-coated and the control panel is of the flat-membrane type, for easy cleaning.

6 It should be operationally simple. When a bag is fed into one side of the machine, the machine should start automatically or by pushing a button, moving the bag through the machine, and applying pressure and heat to form a perfect seal.

7 The warm-up time should not exceed 30 seconds, and the feed speed should be approx. 10 m/min.

8 The temperature should be adjustable from 50–200°C with a tolerance of 1% of the set value.

9 It should be regulated by a heating element that is highly sensitive to temperature fluctuations, assuring even temperature and perfect seals.

10 It should offer a number of additional features, including:

a Automatic start-up

b Reverse feed function in case an instrument accidentally enters the sealing area

c Energy-saving stand-by mode

d Pre-set temperatures

e Re-settable counter function

11 Rotary heat sealers come with a port and cable for connection of the sealer to a PC and printer, enabling monitoring and documentation of the entire process.

12 Should have a protection mechanism against overheating and start prevention at temperature deviations outside +/- 5° C tolerance.

13 Rotary heat sealer should be European CE issued by notified body /US FDA certified.

VII Gauze Cutting Machine

1 Should be useful in cutting thickest of cotton gauze material

2 Should consist of a cutting unit and a knife sharpening unit

3 Blade size should be 200 mm.

4 Cutting Capacity should be 165 mm.

5 Should work on 230V, 50 Hz power supply.

VIII Instrument Washing Station

1 Instrument washing sink should have two washing sinks and one slop for draining having minimum over all dimension of 2600 x 750 x 1700 mm (L x W x H) (±10%)

2 The complete station including tap & pipes should be made of solid, bright-polished minimum sheet thickness of 1.5 mm stainless steel 304 grade to withstand heavy-duty work with wet instrument.

3 Designed with an integrated 10 mm high edge at the front and sides, and a 150 mm high edge (splash back) at the rear

4 The front and side edges are reinforced and widened to 49 mm. Edges are welded together and polished at the corners.

5 The worktop should slope to the sink, and reinforced by a full-length support frame.

6 The support frame should be a complete assembly with the front, back and ends welded together at the corners.

7 All the joints shall be welded together and polished at all corners for good hygeine, as well as for the comfort and safety of the staff.

8 The floor stand should be made of polished stainless steel.

9 Corners should be curved to a 65 mm radius for easy cleaning.

10 Should have minimum 32 mm drain and the bottom should slope to the drain.

11 Sink units should be of sizes that allow processing of the large modular instrument trays

12 Sink units should have a minimum dimension of 500 x 450 x 350 mm (L x W x H) (±10%)

13 The legs should be able to provide strong support and hold to the entire unit securely.

14 The sink should include a drain valve, removable strainer, manually operated drain-valve, overflow drain pipe and water trap.

15 Should be delivered ready for assembly.

16 The table also includes a mixing faucet with swivel spout, for cold and hot water connection.

17 Should have water drain control for enzymatic soaking.

18 Should have horizontal bottom platform with door for storing chemicals / supplies.

19 Should provide Deck mounted stretchable spring-loaded faucet.

20 Should have a perforated SS brush holder.

21 Should provide Air gun with spiral PU tube.

22 Should provide Water gun designed for connection to water or compressed air supplied with 8 different tips and nozzles for assisted cleaning of syringes and cannulas with Record cone, measuring and blood pipettes, catheters and small pipes, drainage tubing, syringes and cannulas with Lure cone, spray jet for rapid instrument cleaning, bottles and Erlenmeyer flasks, water jet pumps for suction cleaning

IX Work Table for Dry & Wet Goods

1 Work Table for Dry and Wet Goods should have minimum size of 2200 x 800 x 950 mm (L x W x H) (±10%)

2 Stainless steel tables specially designed for inspection and sorting of wet & dry goods in heavy duty areas and for general purpose pre-storage.

3 The work tables should have a rigid stainless steel construction which is easy to clean and should not have sharp edges or corners.

4 The table should be ergonomically worked up, should have easy to clean robust matt finished (to reduce reflection of light from the surface) with minimum sheet thickness of 1.5 mm stainless steel (304) worktop/surface to withstand and carry out heavy work comfortably, either sitting or standing.

5 The edges along the front, back and sides should be reinforced and widened to 37 mm, giving a rigid construction.

6 They are welded together and polished at all corners for good hygiene, as well as for the comfort and safety of the staff.

7 The worktop should be supported by a complete assembly with full-length reinforcements along the front, back and ends, welded together at the corners.

8 All the joints shall be welded together and polished at all corners for good hygeine, as well as for the comfort and safety of the staff.

9 The support frame has to be mounted on a solid, stable floor stand, made of polished stainless steel square tubing, with horizontal braces 300 mm above floor level. An adjustable 10cm (± 25 mm) plastic foot, easy to clean, is mounted on each leg.

10 The provision is to be made for a sturdy 445 mm-wide stainless steel shelf (optional) can be mounted on the horizontal braces.

11 It should be delivered ready for assembly.

12 All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).

13 There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

X Packing Table with Two Shelves

1 Packing Table should have minimum size of 1800 x 800 x 900 mm (L x W x H) (±10%)

2 This table should be specially designed for sorting, inspection, functional control and packing of various sets for wards, clinics etc. and for surgical instrument sets in trays. The work could be done comfortably, either sitting or standing.

3 The worktop should be made of 1.2 mm 304 Grade Stainless steel top with Satin finish. All edges should be smooth. The extended width of the worktop should be designed to facilitate thorough inspection of instrument trays and allow the use of large wrapping material.

4 The rigid frame is made of stainless steel (304).

5 There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

6 The table should include a two-shelf console, mounted on the worktop, for storage of packaging materials.

7 Should have flexible holding baskets and storage shelves and inbuilt paper holding arms

8 The rigid supporting columns of the console include 3 electrical outlets.

9 There should be a free space of 450 mm between the lower shelf and the worktop, and 150 mm between the two shelves.

10 The table should have lockable drawer unit (both sides as double model) mounted under the worktop.

11 Each drawer unit should be 400 mm wide and should include a drawer and a sliding plate.

12 Should have 4 wheels made of TENTE Germany / SUPO Italy with diagonal brakes.

13 Should be supplied with 3" x 7" magnifying glass with illumination highly suitable for demanding work in CSSD for inspection of delicate instruments used in hospitals (surgical and medical).

14 The lamp should have standard +3-diopter circular glass lens which can provide a viewing field of 127 mm diameter and magnifies 1.75 times.

15 The circular 22W energy-saving fluorescent lamp surrounds the magnifying lens and provides effective lighting without annoying heat operable with an electrical connection of 220/240 V andshould be easily available for replacemen

16 The magnifying head should be made of ABS polymer, combining light weight with high impact strength.

XI Linen Inspection Table

1 Linen Inspection Table should be made of SS 304 grade and have minimum size of 2200 x 800 x 950 mm (L x W x H) (±10%)

2 The table should be specially designed for sorting, inspection (each piece of linen can be moved over an illuminated inspection panel) and folding of surgical dressing sets and individually packaged towels/gowns. The extended width also facilitates work with large dressing sheets. Work can be carried out comfortably, either sitting or standing.

3 Worktop should be made of stainless steel SS 304 Grade with thickness 1.2mm, mat finished.

4 All edges of the worktop should be smooth.

5 The top should have a built-in opalescent (milky) plastic surface plate, 1000 x 700 mm, illuminated from underneath by two 25 W fluorescent tubes located beneath the top in a laminated recess.

6 The table should have two electrical outlets (one on each side).

7 The rigid frame should be made of stainless steel (304).

8 There should be unobstructed access to the working space, since the only supports needed along the front of the table are the corner legs. This also facilitates cleaning of floors.

9 Should have 4 wheels made of TENTE Germany / SUPO Italy with diagonal brakes

10 Should be supplied with 3" x 7" magnifying glass with illumination highly suitable for demanding work in CSSD for inspection of delicate instruments used in hospitals (surgical and medical).

11 The lamp should have standard +3-diopter circular glass lens which can provide a viewing field of 127 mm diameter and magnifies 1.75 times.

12 The circular 22W energy-saving fluorescent lamp surrounds the magnifying lens and provides effective lighting without annoying heat operable with an electrical connection of 220/240 V andshould be easily available for replacemen

13 The magnifying head should be made of ABS polymer, combining light weight with high impact strength.

XII Closed Transport Trolley

1 Closed Transport Trolley should have minimum size of 1200 x 700 x 1200 mm (L x W x H) (External) (±10%)

2 A Closed Transport trolley is used for sterile goods handling, for which higher protection than normal dust protection is required, e.g. short transports between hospital buildings.

3 Closed transport trolley shall be suitable for handling baskets or containers having removable shelves of 3 Nos.

4 Should be made of fully welded stainless steel construction of minimum 1.2 mm Stainless Steel 304 grade with satin finish

5 The doors should open 270° for easy access and cleaning.

6 Trolley should have lockable doors and should include double side handle bars.

7 Should have 2 fixed and 2 swivel wheels of diameter of 125 mm made of TENTE Germany / SUPO Italy with diagonal brakes.

8 Should have SS external hinges and knob lock

XIII Double Column Basket Rack

1 Basket Rack should be double column type having minimum dimension of 1200 x 400 x 2100 (L x W x H) (±10%) to store wire baskets in sterile storage and/or as pre storage of clean packed goods.

2 The rack should be designed as an open unit to promote aeration of sterilized goods and to make inspection of stored goods as easy as possible.

3 Should be made of fully welded stainless steel construction of minimum 1.5 mm Stainless Steel 304 grade with satin finish

4 Should provide rigid, horizontal guide-rails, consisting of 50 x 20 mm steel profiles for loading and unloading the baskets by sliding the baskets on rail.

5 The guide-rails should be welded to a robust support column mounted on a rigid floor stand.

6 The columns should be joined by support frames on top and below the base of the rack.

7 To facilitate cleaning of the floor, the base should have a rigid construction that minimizes the number of legs needed for support.

8 The double rack should be a free-standing section that holds minimum 8 baskets in each vertical.

9 Should have 4 wheels made of TENTE Germany / SUPO Italy with diagonal brakes

10 Should be provided with SS stopper for preventing basket fall during transportation

11 Should be supplied with 16 numbers of baskets with each rack

XIV Mesh Rack

1 Mesh rack should have dimension of minimum 1000 x 500 x 2100 mm (L x W x H) size. (±10%).

2 Construction should be based on single free-standing shelf modules for storage of clean linen, instruments, and packing material or sterilized goods, including disposables.

3 Should have provision to attach two single modules back to back and combined as a double module unit and should provide 10 S hooks for connecting the same with each racks.

4 The wire construction should allow good air circulation while permitting easy inspection of the goods.

5 The wire shelves should be made of special heavy-duty steel (304), chromium-plated and surface treated with clear epoxy varnish to facilitate cleaning.

6 The shelf unit should be easy to assemble on site and all parts should fit precisely.

7 Shelves should be mounted by means of plastic clamps onto circular rigid posts, with the adjustable height within a range of about 50 mm. Each post should include a height adjustable foot.

8 Should have 4 wheels made of TENTE Germany / SUPO Italy with diagonal brakes

XV Storage Cabinet

1 Storage Cabinet should have double door with glass having minimum dimension of 1000 x 450 x 1900mm

(LxWxH) (±10%)

2 All edges should be smooth and the rigid frame should be made up of minimum 1.5 mm sheet thickness stainless steel (304).

3 Should have lockable door having glass of 5 mm in two panes per leaf.

4 Should have SS bud hinges and paddle lock

5 Should have adjustable and removable shelves of 3 nos.

XVI Static Pass Box with Electrical Interlocking

1 Static pass box with electrical interlocking should have a minimum overall dimension of 800 x 600 x 800 mm and internal workspace of 600 x 500 x 650 mm (L x W x H) (±10%)

2 Pass box shall be specially designed for transfer of materials from Dirty to clean supply, ETO to Sterile supply and Sterile issue

3 Should be made up of SS 304 sheets with double wall construction satin finish

4 Should have UV lights for safe storage of components

5 UV light should automatically switch off when any one door is opened

6 Pass-through chamber should have audible buffer alert in case door kept open for long time.

7 The chamber should consist of two electrically operated sliding hatches / hinged door.

8 Each hatch should have its own 24 DC motor that powers a drive belt and ensures smooth operation, as well as its own convenient push-button control to ensure that both hatches cannot be opened at the same time.

9 The control should feature two modes of operation to open or close the hatch with a press button mechanism

10 Should have door interlocking to prevent simultaneous opening of both the doors

11 Should have toughened glass paneling for easy visibility.

XVII Sterlizing Baskets - Big

1 Sterilization wire baskets should have minimum size of 550 x 350 x 200 mm (L x W x H) (±10%)

2 It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.

3 It should be self-drying after disinfection in hot water (min.+85°C)

4 It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.

5 It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)

6 The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.

7 There should be no sharp edges or wires.

8 The surfaces should be smooth to assure easy cleaning in a washer-disinfector.

9 The baskets should be made of heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.

10 It should be designed and manufactured in accordance with high quality specifications to assure long lifetime.

XVIII Sterilizing Baskets - Medium

1 Sterilization wire baskets should have minimum size of 550 x 350 x 100 mm (L x W x H) (±10%)

2 It should be modular design with standard SPRI sizes and high precision and should be designed for sterilizing / processing as well as easy handling and management of the supply, storage and distribution of re-circulated sterilized goods.

3 It should be self-drying after disinfection in hot water (min.+85°C)

4 It should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.

5 It should be both nest able and stackable There should be special wire support to help making baskets both stackable (when the supports are folded into the basket) and nest able (when the supports are folded out)

6 The top frame should be designed such that it should serve as a handle grip for easy carrying even when heavily loaded.

7 There should be no sharp edges or wires.

8 The surfaces should be smooth to assure easy cleaning in a washer-disinfector.

9 The baskets should be made of heavy-duty stainless steel (304) and should have a rigid bottom frame that gives space for airing between goods and work surfaces and allow use on roller belt and chain conveyors.

10 It should be designed and manufactured in accordance with high quality specifications to assure long lifetime

XIX Sterilization Container - Small

1 Sizes should be – 300 x 290 x 110 mm (±10%)

2 Should have thermo lock drainage, steam penetration valve and stainless steel top/Aluminium top with permanent filters with life span of 4000 - 5000 cycles

XX Steriliztion Container - Medium

1 Sizes should be – 300 x 290 x 140 mm (±10%)

2 Should have thermo lock drainage, steam penetration valve and stainless steel top/Aluminium top with permanent filters with life span of 4000 - 5000 cycles

XXI Sterilization Container - Large

1 Sizes should be – 590 x 280 x 260 mm (±10%)

2 Should have thermo lock drainage, steam penetration valve and stainless steel top/Aluminium top with permanant filters with life span of 4000 - 5000 cycles

XXII Instrument Tray - Small

1 Sizes should be minimum of 340x250x70 mm (±10%)

2 It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.

3 It should be self-drying after disinfection in hot water (min.+85°C)

4 Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.

5 It should be stackable.

6 The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.

7 All cross-points in the network and vertical wires to top and bottom frames should be point welded.

8 All free wire ends should be soft-polished to prevent injury when handled.

9 The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wire frame to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.

10 It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

XXIII Instrument Tray - Big

1 Sizes should be minimum 450x250x70 mm (±10%)

2 It should be modular design with high precision and should be designed for use with modular wire baskets through all phases of instrument processing: washing and disinfection (both manual and in an automatic washer-disinfector), ultrasonic cleaning, inspection and packing, sterilization, storage, distribution and usage.

3 It should be self-drying after disinfection in hot water (min.+85°C)

4 Instrument trays should be sturdy, jig-welded trays maintain their size and shape even if handled carelessly.

5 It should be stackable.

6 The tray should be made of stainless steel (304) wire net, with a maximum mesh size of 6.5 mm and a wire diameter of 1.5 mm. This design gives optimal cleaning results and at the same time prevents instruments from penetrating the sides of the tray.

7 All cross-points in the network and vertical wires to top and bottom frames should be point welded.

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9 The bottom wire construction should include a rigid, 3 mm diameter, stainless steel (304) wireframe to provide space for airing between goods and work surface and to allow use on roller, belt and chain conveyors.

10 It should be electro-polished for smooth, clean surfaces and also suitable for ISO modular wire baskets.

XXIV Stool (SS)

1 Should have stainless Steel top made of SS 304 grade.

2 Should be height adjustable from 450mm to 680 mm, through mild steel threaded screws

3 Should have four legged base made of 25mm steel tube mounted on rubber shoes.

4 Should have Stainless steel ring for footrest.

5 Should be pre-treated Epoxy powder coated frame work.

XXV Cladding with Service Doors for Sterilizers

1 Should provide rigid panelling in between sterilisers faciliate easy access for servicing sterilizers

2 The Main structure will be made of Stainless Steel 304 grade square section 25 x 25 mm, 16 SWG

3 The panelling enclosure will be made of Stainless Steel 304 grade, 16 SWG with service doors, Hinge mounted and with magnetic lock and Handle

4 The gap filling between the steriliser and partition wall be done by Silicon sealant

5 The Stainless Steel panelling should have Matte finish

XXVI General – CSSD Equipments & Furniture.

1 All double door steam sterilizers, washer disinfector and table top sterilizer should be from the same manufacturer.

2 Tenderer shall offer all CSSD furniture except sterilization tray, container and instrument tray should be from the same

manufacturer.

3 Furniture manufacture should have ISO 13485:2016 certification.

4 10 % tolerance in measurement is accepted for all CSSD furniture items.

NOTE:

1. The unit rates shall be offered wherever mentioned in the BOQ. For evaluation the quantity mentioned in BOQ & the total rates offered will be considered. However the actual quantity may increase or decrease.

2. The total rate offered for all the items together shall be considered for L1 evaluation. The quantity taken for evaluation is mentioned in the BOQ.