



**NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA-769008 (ODISHA)**

**Tender Notice No:- CT-12/ 2013-14**

Sealed proposals are invited for  
(Supply ,Installation and commissioning of Kitchen equipment  
for Halls of Residence , NIT, Rourkela)

Issue of tender (Website) :**13.09.2013.**

Closing Date & Time : **08.10.2013, 3.00 PM**

Open on : **08.10.2013, 3.30 PM (Part-I & Part-II)**

for details, visit [www.nitrkl.ac.in](http://www.nitrkl.ac.in)

**Contact:** Prof. S.K. Das, PIC (Civil Construction).

**Phone no:** 0661-2462315,

**Email :** [sarat@nitrkl.ac.in](mailto:sarat@nitrkl.ac.in)

S/d  
Registrar

*An Institute where everyone strives to attain his Potential.*



# NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA-769008, ODISHA

## (TENDER NOTICE NO – CT-12/2013-14) (SUPPLY, INSTALLATION AND COMMISSIONING OF KITCHEN EQUIPMENT FOR NIT, HALLS OF RESIDENCE)

Sealed tenders are invited from leading Manufacturers/suppliers of kitchen equipment for Hostels as per size and specifications enclosed. The quality of work shall be of superior type conforming to relevant IS standards.

**Estimated Cost : Rs. 360 Lakh (Approx.)**

**Earnest money Deposit: Rs. 7.20 Lakh**

**Time of Completion : 6 Months**

### **1. Eligibility Criteria:**

Suppliers who fulfill the following requirements shall be eligible to apply. Joint ventures are not accepted.

- i) Should have had total financial turnover of Rs. 20.00 Crores on Supply Installation and commissioning of Kitchen equipment during last three years, ending 31<sup>st</sup> March 2013. (Copy of Certificates from CA to be submitted)
  - ii) The firms should not have been black listed at any time.
  - iii) The firm should have successfully completed at least 3 orders of valuation of Rs. 1.2 Crores each or more on similar Kitchen equipment in last 3 years.
2. Sealed tenders on overall cost plus/minus percentage basis, are invited in the prescribed form for providing, Installation and commissioning of Kitchen equipment of the Hostels.
- i) The tender must accompany the earnest money of Rs. 7.2 Lakhs.in the form of Demand Draft of Nationalized Bank (payable at Rourkela in favour of Director, National Institute of Technology Rourkela).A part of earnest money is acceptable in the form of bank guarantee also. In such case, Rs. 3.60 Lakhs will have to be deposited in the shape of Demand Draft and balance amount in shape of Bank Guarantee of any Nationalized Bank having branch at Rourkela. The intending bidders have to fill in all the details such as Banker's name, Demand Draft, Bank Guarantee number, amount and date. The Bank Guarantee

submitted as a part of Earnest Money shall be valid for a period of six months or more from the date of submission of the tender.

3. The tender papers may be downloaded from NIT website (i.e. [www.nitrkl.ac.in](http://www.nitrkl.ac.in)). However, payment of Rs.1, 000.00 (nonrefundable) towards price of Tender documents plus Rs. 50.00 towards VAT in the form of separate Bank Drafts of Nationalized Bank payable at Rourkela in favour of Director, National Institute of Technology, Rourkela shall be submitted with EMD.
4. Interested reputed Manufacturer/suppliers who are financially sound and who have supplied similar type of Kitchen Equipment to Hostels of Academic Institution/Star Hotel etc and who meets our eligibility criteria are requested to apply with credentials/information/work orders/testimonials.
5. The submission of bids by the supplier should be addressed to the Registrar, National Institute of Technology, Rourkela in three separate sealed Envelopes enclosed in one cover envelope superscribing on the top of the envelope:

**SUPPLY, INSTALLATION AND COMMISSIONING OF  
KITCHEN EQUIPMENT FOR NIT, HALLS OF RESIDENCE  
(TENDER NOTICE NO- CT-12/2013-14)  
DUE DATE: 08.10.2013 UP TO 3.00 PM**

**Envelope No-I** : - To contain Bank Drafts towards: (i) Earnest Money deposit and (ii) Tender Document Price and VAT.

**Envelope No-II**: - To contain techno commercial bids, BOQ and other Tender documents (General Conditions of Contract, special conditions specifications etc.) attached to the tender signed and stamped on all pages confirming acceptance.

**Envelope No-III**: - To contain the price bid in the prescribed form with overall percentage (in figures and words) over the total estimated cost which will be applicable to individual schedule items.

- 6. (a) Validity of Tender : - 120 days**  
**(b) Last date of Submission : - 08.10.2013 Up to 03.00 PM**  
**(c) Date & Time Opening of Tender: - 08.10.2013 at 3.30 P.M**

7. The tender price quoted by a tenderer shall be kept strictly confidential by them and shall not be divulged to any other party even approximately before the time limit for delivery of tender. The only exception be for obtaining an insurance quotation, you may give your insurance company or agent any essential information they ask for, so long as it is done in strict confidence. No information about others tender price should be obtained and no arrangement with anyone else should be made whether or not he submitted the tender.
8. All products to be supplied to the firm must be of superior quality of material, with very good finish and workmanship. Decision of the institute shall be final & binding .Rejected material should be taken back without argument.
9. Details including our prescribed format for prequalification, BOQ, General Conditions and Special Conditions of Contracts etc. are available in our website at <http://www.nitrkl.ac.in/tender.asp>

**REGISTRAR**

**National Institute of Technology**

**Rourkela-769008 (Orissa)**

**Fax: 0661-2472022**

**Ph No: 0661-2472021**

**CHECK LIST FOR PRE-QUALIFICATION**

Forms to be filled in properly.

1. Form-A: This form (check list)
2. Form-B: Letter of Transmittal
3. Form-C
4. Form-D
5. Photocopy of documents to be attached.
  - a) Valid license
  - b) Work orders executed of last 3 years.
  - c) Vat Clearance Certificate & PAN Card
  - d) Performance report from authority/officer having rank not below Executive Engineer with specific mention about the project components, scheduled and actual time of completion, final project value etc. to be submitted.

**(Signature of the Agency)**

**PRE-QUALIFICATION INFORMATION**

**LETTER OF TRANSMITTAL**

(To be typed on the Agency's Letterhead)

To

THE VISITING PROFESSOR (CIVIL)  
NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA-769008.

**SUB: SUPPLY, INSTALLATION AND COMMISSIONING OF KITCHEN  
EQUIPMENT FOR NIT, HALLS OF RESIDENCE.**

Sir,

Having examined the details of pre-qualification document, I hereby submit the pre-qualification documents and other relevant information.

1. I hereby certify that all the statements made and information supplied in the enclosed forms A to D and accompanying statements are true and correct to the best of my knowledge. I understand that if any information found incorrect, the application is liable to be cancelled.
2. I have furnished all information and details necessary for pre-qualification and have no further pertinent information to supply.
3. I certify that my firm is not **blacklisted/banned** from business by any organization.
4. I hereby accept the rules and procedures of the Institute for pre-qualification of Contractor and agree that the Institute has the right to accept or reject any application without assigning a reason thereto.

**(Signature of the Agency)**

NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA

APPLICATION FOR PRE-QUALIFICATION

1. **Name of Agency/Firm :-** \_\_\_\_\_
2. **Address:-** \_\_\_\_\_
3. **FAX/Telephone Number: -** \_\_\_\_\_
4. **Special Qualification for technical Person**  
\_\_\_\_\_
5. **Details of Registration** \_\_\_\_\_
6. **Volume of business in last three financial years.**  
2010-11               Rs \_\_\_\_\_  
2011-12               Rs \_\_\_\_\_  
2012-13               Rs \_\_\_\_\_
7. **Important jobs executed in NIT Rourkela including specifications, materials used etc.**
8. **Field of Specialization.**
9. **Valid Income Tax clearance certificate (ITCC).**
10. **Any other information regarding technical capability.**

(Signature of the Agency)

Annexure to application for pre-qualification

**WORKS COMPLETED AND IN PROGRESS DURING THE LAST 3 YEARS (INCLUDING ALL WORKS AWARDED)**

{ADD ADDITIONAL SHEETS, IF NECESSARY}

Sl. No.	Name of Work & Agreement No	Date of start	<u>Date of Completion</u>		Tendered Cost	Complete address of the Authority for whom the Work was done
			<i>Stipulated</i>	<i>Actual</i>		



**PRICE BID**

(To be submitted in the Letter Pad of firm)

To

THE VISITING PROFESSOR (CIVIL)  
NATIONAL INSTITUTE OF TECHNOLOGY  
ROURKELA-769008.

**SUB: SUPPLY, INSTALLATION AND COMMISSIONING OF KITCHEN EQUIPMENT FOR NIT, HALLS OF RESIDENCE.**

Dear Sir,

We are hereby submitting the price bid for the above mentioned work.

**Our quoted price is as given below from the schedule provided by NIT for the above mentioned work.**

_____ % (In figure)	[----- (In words) -----]	<u>BELOW</u>
<b>OR</b>		
_____ % (In figure)	[----- (In words) -----]	<u>ABOVE</u>

The same percentage will be applicable to all the items.

Signed in the capacity of duly authorized to sign tenders for and behalf of

\_\_\_\_\_  
**Name of Firm**

\_\_\_\_\_  
**Signature**

**Name & Address** ..... **Telephone No.** .....

..... **Mobile No.** .....

**Date:** .....

# **M / S N I T ROURKELA**

## **TENDER DOCUMENT FOR KITCHEN EQUIPMENTS**

Architect:

**M/S Ignatius John**  
Chennai

Facility Planning Consultant

Ignatius John  
T-1, Mana Carnations  
Green Glen Layout  
Belandur  
Bangalore 560 103  
9844023833

## **A INTRODUCTION**

Director, NIT, Rourkela is the "Owner / Employer" of the contract.

Mr. Ignatius John, Peacock Group is called the "Consultant" of the contract.

The one, who has bid for the contract, will be called the "Bidder".

The one, who is awarded the contract, will be the "Contractor".

The tenders being invited are for upcoming Hostel Kitchens.

The following tender specifications are included:

- Custom Fabricated Kitchen Equipments
- Cold Room / Refrigeration
- Imported Equipments
- Indian - Bought out Equipments
- Exhaust Hood / Ducting & Blowers

The owners reserve the right to reject any tender or a part of tender without giving any reason and do not bind themselves to accept lowest or any tender.

The owners will not be responsible for, nor pay for any expenses or losses, which may be incurred by the bidders in preparation and submission of the tender.

Before the acceptance of any offer, visits may be made by the owners or consultants to the bidders work to inspect the facilities and satisfy themselves on technical and operational matters. The bidders shall afford whatever assistance is required in this process.

## **B GENERAL CONDITION**

### **Scope of Work**

Scope of work under this contract shall include the following as per details in the documents:

- Supply of equipments and installation to be done at the "Owner / Employer" site in Rourkela.
- Providing two (2) sets of Operating and Maintenance Manuals.
- The "Contractor" undertakes the responsibility to train the designated staff of the "Owner / Employer" and or any other representative of the "Owner / Employer".
- The successful bidder will be required to submit fabrication drawings with details to an appropriate scale for fittings matching to given specifications ETC for owners / consultants review and approval prior to manufacturer.
- Successful bidder is required to verify all dimensions from site of all equipments ordered with him and of other equipment that may have impact on his equipment being procured from elsewhere.
- Successful bidder shall submit a program of manufacture, delivery & installation and the likely dates for inspection within one week of placing orders.
- Supply of items can be done in 3 stages with in delivery period and after commissioning of the supplied items, payments can be released.
- Successful bidder shall mark the points of services at the site and also have to verify the sizes at the site for all the equipments.
- Successful bidder shall provide all necessary holes and / or openings in the equipment, which may be required for the proper installation of the plumbing, electrical, ventilating and refrigerating connections.
- The successful bidder shall allow the owner or any party on his behalf, if necessary to inspect the equipment during fabrication, prior to assembly and before dispatch.

- The successful bidder or their agent shall be responsible for the unloading of his own materials and fittings into a secure area on site provided by the owners. They shall be responsible for providing their tools / tackle and other equipment on site for installing the equipment in the designated locations.
- Prior to acceptance of any tender, the successful bidder shall be required to visit the site and liaise with the consultants / contractor regarding the service facilities available from the other agencies, accessibility of the site and parts there in to enable their fittings to be installed.
- The successful bidder would be required to inform the owner's in the writing about any services they may require for the installation, well in the advance to the actual installation of the equipment.
- Inspection of all fittings shall be carried out by the owner / during and after the installation is completed. The drawback / deficiencies, if any shall be attended to by the successful bidder.

#### **Bidder's Experience**

Every intending "Bidder" shall submit along with his bid a complete list of works of a similar nature carried out by him during the past three years. The bids not accompanied by such a list are liable to be rejected. "Employer" may prefer to inspect "Bidder's" manufacturing / fabricating facilities and completed installations. "Bidders" should indicate the places that can be visited by the "Employer" for such purposes.

#### **Schedule of Delivery**

The equipments have to be installed and commissioned in maximum 3 stages within 6 months from the date of LOI / Work order / Purchase Order.

This schedule shall be binding to the contractor and he shall be expected to adhere to this schedule strictly.

#### **Liquidated Damages**

In case of default by the contractor to dispatch the equipments as per the scheduled dates / periods, the contractor shall be liable to pay the "Owner / Employer" by way of liquidated damages, a sum equal to 1 % (One percent) of the contract price per week or part thereof beyond such date, subject to a maximum of 5% (Five percent) in each case. The contract will be terminated in the event of a delay of more than 10 weeks and the cost of procuring equipments from some other source will be debited to the "Contractor" who had been awarded the contract.

#### **Taxes, Duties, Freight, etc**

All taxes and duties applicable are deemed to be included (if not indicated separately) by the 'Bidder' in his rates. Service Tax if applicable will be reimbursed.

#### **Workmanship**

Every 'Bidder' is expected to have inspected the site and studied the kitchen layout drawings. The workmanship should be strictly conforming to the highest standard and shall be in conformity with the specifications given separately. The entire work shall be carried out in the best possible manner and to the entire satisfaction of the 'Owner / Employer' or his authorized representative.

#### **Selection of Bidder**

'Consultant' and 'Owner / Employer' further reserve the right to place order on any of the Bidder without assigning any reason and their decision would be final.

### **Commissioning and Guarantee**

The contractor shall stand guarantee for a period of 3 years for satisfactory performance for all the equipments supplied and installed. After the equipment installation is complete, the contractor shall carry out testing and commissioning in the presence of the 'Consultant' and / or 'Owner / Employer' as per norms of specification and obtain certificate from the 'Consultant' for satisfactory commissioning of equipment / installation. Contractor shall stand guarantee against manufacturing defects, for good performance and satisfactory handing over of the installations. In case of any defects observed during operations, the 'Contractor' shall be informed and the 'Contractor' shall make good the equipment free of cost during the guarantee period. All expenses involved, including of personnel and equipments transport shall be borne by the 'Contractor' for repair / replacement of the equipments during the guarantee period.

During guarantee period, a technician /engineer of the contract will remain posted at NIT, Rourkela who will report to Chief Warden, Hall of Residence throughout the year except 30 days leave per year counted from the date of joining and not to be carried forward to next year. For absence without leave in a year a charge of Rs. 1000/- per day will be deducted from retention money payable for the year. The responsibility of the Technician/Engineer will be ensuring for smooth operation, maintenance of the kitchen equipments and impart training to the kitchen personnel. Supply of items can be done in maximum 3 stages with in the delivery period.

### **Security Deposit and other Payment Terms:**

The total security deposit shall comprise of EMD + Initial Security Deposit + Retention Money. The amount initial security deposit shall be 2.5% of the awarded value of the tender including EMD. The amount of initial security deposit shall be paid within 14 days of intimation of the acceptance of this tender. In addition to the initial security deposit, 7.5% of the running bill amount will be deducted as retention money till total security deposit amount of 10% is achieved.

The retention money will be returned as per the following:

- i) 40% after completion of one year from the date of final commission.
- ii) 30% after completion of 2<sup>nd</sup> year.
- iii) Balance 30% after completion of 3<sup>rd</sup> year.

### **Supply Voltage and Ambient Conditions**

All the equipments will be suitable for 1-phase, 220V, 50 cycles or 3-phase, 440V, 50 cycle. The power supply sometimes registers a variation of ~10%. The equipment shall be guaranteed to withstand the fluctuation and be tropicalized.

### **Checking**

Checking of manufactured equipment submittals by Consultant is for design concept only, and does not relieve the Contractor of responsibility for compliance with design drawings, details and specifications, verification of utilities with equipment requirements for conformity and location and verification of all dimensions of equipment and building conditions or reasonable adjustments due to deviations.

### **Operation Manual**

The successful 'Bidder' shall handover to the 'Owner / Employer' detailed technical specifications, operations and maintenance manual for the equipments in English. The manual shall contain complete details of the equipment and instructions for normal operation and repair. Two (2) copies of these manuals shall be handed over to the 'Owner / Employer'.

### **Packing**

The equipment shall be dispatched in a rail / road worthy packing and delivered in good condition at the site. The 'Bidder' shall take special care in packing to avoid damages due to rough handling in transit. Any damage will be to the 'Bidder's' account.



## **GENERAL SPECIFICATIONS FOR CUSTOM FABRICATION KITCHEN EQUIPMENTS**

**(Use these specifications wherever not specified otherwise)**

### ***Stainless Steel***

Where stainless steel is specified it shall be what is known to the trade as Austenitic 18-B type 304, 2B finish, with content from 17% to 19% chrome, 7 % to 9% nickel and a maximum carbon content of 0.11.

Stainless steel shall be free from scale and surfaces should be polished to a no. 4 commercial finish.

### ***Galvanised Iron***

Where galvanized iron is called for, it shall galvanized on an 8% copper bearing alloy sheet with approved hot pure zinc galvanizing. Where galvanized iron has been welded, all seams shall be cleaned scales removed and finished with prime coat of Aluminum point.

### ***Iron Pipe***

Where iron pipe is called for, it shall be genuine wrought iron, fully galvanized. All threads are to be cleaned and coated with rust resistant coating.

### ***Stainless Steel Pipe and Tubing***

Seamless tubing shall be thoroughly and properly ground smooth and finished to match adjacent work. All tubing where exposed to view shall be given a final grand of not less than 180 grit emery.

### ***Structural Steel Shapes***

All angles, band, channels or other structural shapes used for framing shall be of domestic manufacture uniform and ductile in quality, free of hard spots, runs, checks or cracks or other surface defects. Where such sections are specified as galvanized or tinned by the hot dip process, with all fluxes removed and in the case of galvanized excess spelter removed to be smooth and free from cold runs, blister, uncoated or scaly patches.

### ***Handles, Brackets, Locking Devices and Hardware***

Wherever equipments are provided with handles, knobs, hinges, brackets or other misc. hardware all shall be either of heavy stain finish chrome plated brass or stainless steel. All drawers, enclosed cabinets, refrigerators storage bins, shall be furnished with extra heavy duty security type locking devices of cylinder type, chrome plated.

### ***Fastenings***

Welds, bolts screws, nuts and washers shall be of steel, except where brass or stainless steel is fastened, in which case they shall be of brass or stainless steel respectively. Where dissimilar metals are fastened, bolts, screws and nuts shall be of the highest grade metal. The spacing and extent of welds, bolts and screws shall be such as to ensure suitable fastenings and prevent bulging of the material fastened.

### ***Welding***

All welding shall be done by the electrical fusion, metal -arc method. Carbon-arc or gas welding will not be permitted. All welding shall be done in a thorough manner, with welding rod of some composition as sheets or parts welded. Welds shall be complete welds, strong and ductile, with excess metal ground off joints finished smooth to match adjoining sheet surfaces. All joints in top of fixtures, tables, drain boards; exposed shelving, sinks etc. shall be welded. All equipment here in specified which is constructed in more than one piece of sheet of metal, shall be continuously Welded together with welds ground smooth and polished. But welds made by spot welding straps under beams and filling in the voids with solder and finished by grinding, will not be accepted.

It is the intention of this specification that all welded joints shall be homogenous with the sheet metal itself. Where sheet sizes necessitate a joint, such a joint shall be welded. Tops of fixtures shall be fabricated in the factory with welded joints to reduce field joints to a minimum. Where fixtures joins the tops of such fixtures Shall be continuous with welded joints except in the case of field joints. All joints made in the field shall be closely butted, pulled together in the field, field welded and polished smooth in accordance with section. Grinding, polishing finishing if these requirements. Tops of fixtures shall be of maximum length and with welded factory joints to an absolute minimum. Wherever welds occur on the surfaces not finished by grinding & polishing, such welds and the accompanying discoloration shall be suitably coated in the factory by means of metallic base paint. To prevent the possibility of progressive corrosion of such joints.

#### ***Grinding, Polishing and Finishing***

All welded exposed joints shall be suitably ground flush with adjoining material and neatly finish to harmonize herewith. Wherever material has been sunken or depressed by the welding operation, such depression will be suitably hammered and pressed flush to adjoining surfaces and if necessary again ground to eliminate low spots. All ground surfaces shall then be polished or buffed to match adjoining surfaces, consistent with good workmanship. Care shall be exercised in all grinding operations to avoid excessive heating of metal & metal discoloration. In all cases, grain of rough grinding shall be removed by successive polishing

operations. Texture of final polishing operation shall be uniform and smooth consistent with reasonable care and good workmanship. General finish of all equipment shall be of high grade. But joints and contact joints, wherever they occur, shall be close fitting and shall not require solder as filler. In no case in any soldering for strength and stability of joint and fixture itself. Wherever breaks bend occur, it shall be free from undue extrude and

shall not be flaky scaly or cracked in appearance and where such break work does mar the uniform surface appearance of the material. All such marks shall be removed by suitably grinding, polishing and finishing. Wherever shared edges occur they shall be free from burrs, fins or irregular projections and shall be finished over such sheared edges. Where mitres are bull nosed corners occur they shall be neatly finished with under edge of material neatly ground to a uniform condition and, in no case any over lapping materials to be accepted.

It is the intention of these specifications to cover equipment of quality finish consistent with high grade manufacturing practices. All exposed surfaces shall be of no 4 finish except trim, which is to be more highly polished satin finish. Where specified all doors cabinets, shelves, whether inside /outside of cabinets and wherever exposed are to be no. four 4 finish. This applies to inside finish of any cabinet having door s or otherwise



an exposed surface shall be interpreted as meaning an inside surface exposed to view when a sliding or swinging door is opened. Underside of shelf need not to be 4 finishes but such finish shall be at least equal to 80-ground finish. Final no. 4 finishes to be factory finish, not as furnished by mill. Indication of die markings not blending with final finish will not be accepted.

#### ***Bolt Construction***

It is the intention of this specification that all equipment on exposed surfaces and wherever bolts are used to fasten trim to paneling and body of warmers, cabinets, counters etc. and more particularly to fasten tops of counter, dish tables etc. to top of framing such bolts and screws occur on the inside of the fixtures and are either visible or might come in the contact of the hands or the wiping cloth, such bolts, screws shall be capped with a suitable lock washer and chrome plated, brass or bronze acorn nut . Where screw nuts are not visible or readily accessible, they may be capped with a standard lock washer & steel nut treated to prevent rusting & corroding. Wherever bolts and screws are welded to underside of trim or tops, the reverse side of weld shall be neatly finished uniform with the adjoining surface of trim or top, depressions at these points will not be acceptable.

#### ***Sound Deadening***

Underside of all stainless steel top for tables, counters, sink dishes and pot table with angle framework shall be treated with a coating of Carbozite aluminum finish or approved equal.

#### ***Material and workmanship***

All material equipment etc. shall be new and of kind specified and shall be in undamaged condition when turned over to owner.

All workmanship shall be of best quality of crafts men skilled in their respective trades. Appliances shall be of rigid construction free from objectionable vibrations and quiet in operation. Manufacture's nameplate shall not appear on any of the fabricated equipment.

#### ***Reservations***

Various items are specified here in with the model no., brand or trade names or name of manufacturer, and it is the intent of this specification that the exact fixture so specified shall be furnished. This is not intended to restrict competition and consideration will be given to other brands that are equal or superior on every respect. However no substitutes or alternatives will be accepted if not mentioned in the base bid. Owner reserve right to waive any information or reject any or all bids or any part or parts thereof, or to accept that bid as a whole or part, which in his judgment is for the interest of the owner. The decision as to acceptance or rejection of any alternate proposed shall be that of owner and / or architect or his consultant and their decision shall be final.

#### ***Legs***

All legs to be constructed of not less than 40mm diameter stainless steel tubing cold drawn, annealed and pickled spaced no more than 1800mm C.C. all legs shall be uniform in finish. All legs, until and unless specified, to be of 304 SS.

#### ***Legs Cross Bracing***

All legs bracing where required, to be constructed of not less than 25 mm diameter 18GA SS and as specified above for expect as noted below. All cross bracing to run horizontal between all legs, approximately 250 mm above floor unless otherwise specified.

All joints to be completely welded around entire perimeter forming complete seal with all welds ground and painted. Where one side of box unit is eliminated to provide space for cans, carts, plumbing or otherwise single cross brace to extent to given legs, such cross brace to be reinforced by diagonal section of tubing and set not less than 150mm out at each side, all welded as specified herein before.

#### ***Under Bracing***

All stainless steel counters, tables boards and dish tables tops to be braced below with inverted type channels made of 16 GA SS or G.I as specified, measuring 25 mm X 100mm X 25mm spaced not more than 750 mm on centers and installed in similar fashion.

#### ***Feet***

All legs shall be provided with stainless steel bullet feet, having an integrally formed shaft, with a minimum adjustment of approx. 40mm without using of threading or adjusting bolts. Feet shall be completely sealed at bottom and shall be close fitting between tubular legs support and foot.

#### ***Undershelves***

Where flat under shelving is specified under shelves shall be constructed of 18 GA SS All shelving shall be turned down on all sides approx. 40mm and in 12mm in channel shape with resulting corners cut out to fit contour of leg. Shelving shall be welded to legs and shall be ground polished & smooth under shelving shall m be reinforced with 25 mm X 100 mm X 25 mm of 16GA SS welded channels.

Removable type shelving to be of same material, rolled down on all sides with corners notched to counter of leg with resultant notches ground and polished smooth. Under shelving to be constructed in sections of not more than 900 mm and where butted against adjoining shelf section shelving to be turned down 40 mm and in 12 mm in channel shape. Supporting channel to be furnished on underside of each self-section of same size and material as specified above.

#### ***Drawers***

Drawers inserts shall be constructed of 18 GA SS and shall have all corners curved to 20 mm radius.

Drawers front are to be not less than 16 GA double pan type with resulting corners welded ground and polished smooth. All drawers to be deadened. Drawers to set into an enclosed 20 GA SS vermin proof housing closed on all sides and bottom with 12 GA SS channel shaped slides four ball bearing rollers two front & two rear auto stops and release catches. Drawer's faces to be provided with recessed stainless steel pull handle welded face to face.

All drawers unless other wise specified shall be 500 mm X 500mm X125mm deep, inside measurements.

#### ***Sinks and Drain Boards***

All sinks and drain boards to be constructed of 16 GA SS unless otherwise specified with all joints neatly welded, ground and polished smooth. No soldering at any point will

be accepted in sink and drain board construction. All front and free standing edges to be turned up 40mm and to be turned out 50mm and down 40mm in 12mm raised fronts and ends of drain board are to be level with sink and continuous therewith and is not to follow pitch of drain boards. Drain boards to be pitched 3mm X 25 mm towards sink compartment. Sinks and drain boards to have 250mm high splash back level and continuous not following pitch of

drain boards adjacent to walls or adjoining equipment. Where drain boards exceed 600 mm in length legs shall be provided as here in before specified. All vertical and horizontal corners to be rounded to radius of approx. 25 mm with all intersections meeting in spherical section. All sinks having two or more compartments to have double dividing partitions, with fully rounded corners, both vertical & horizontal. All corners of drain boards to be rounded on insides to a radius of 25 mm front corners of rolled rim to be fully rounded on outside rolls and be concentric with inside of roll. Bottom of each sink compartment to be creased to sufficient pitch towards waste outlet with 100 mm 14 GA SS perforated removable strainer plate set not less than 3/8" below sink bottom. Opening for hot & cold-water faucets to be cut in to splash back as required. All sinks shall be 14 GA deep unless otherwise specified to a no. 4 satin finish.

Where sinks are to be built as a part of counters, overflow scrap compartments for sinks as indicated on plans, to be constructed same as above, welded into place, with resulting welds ground and polished smooth, eliminating traces of welding.

Bottom of each sink compartment to be furnished with 50 mm IPS heavy-duty lever drain. Unless otherwise noted, connected overflow to be furnished with SS perforated plates secured to body of sinks and constructed so that constant water level is 25 mm below dividing partition.

#### ***Dish Table***

Dish table to be constructed to be same as previously specified for sink drain boards except as noted below. Where table enter dish washing machine or pot washing they shall be turned down 25 mm into machine and a flange provided at both front and splash back, arranged so as to permit a neoprene gasket, approx. 3mm thick, being bolted between flanges and turned down of table forming a watertight joint across bottom and if up both side to top edge of dish table. Under side of all dish table shall be provided with sound deadening material either sprayed or brushed on into smooth coating. Sound deadening to be Carbozite or equal and finished sprayed with aluminum.

#### ***Stainless Steel Table Tops***

Where SS tops are called for they shall be of not less than 16 GA SS finished in satin finish with all resulting edges rounded with no burrs or other excess material left.

Where tables are placed against building walls they are to be turned up in back approx. 150

mm and returned 25 mm 90 at wall with all exposed ends closed.

Vertical and horizontal joints to be covered on 20mm radius terminating in fully covered intersections thoroughly welded, ground and polished smooth to match top surfaces. Top shall be constructed of single pieces of S.S and to be reinforced underneath with inverted type channels of not less than 16 GA G.I or S.S as noted above, space not more than 750 mm C.C. tables 1800 mm and longer to have 40 X 40 X 3mm galvanized steel angle frame work reinforced outside edges with cross channels over 750 mm or less.

#### ***Sliding Doors***

Sliding doors where called for, to be made of 18 GA SS exterior and 20 GA galvanized steel interior unless otherwise specified.

Doors to be equipped with recessed stainless steel pull handles. Door to be made removable. Door to be double pan construction, filled with suitable sound deadener, 12 mm thick with all corners welded ground and polished smooth to uniform finish. Doors to be designed to permit removal for cleaning and adjustment without use of tools. Bolts and screws are to be kept to minimum and to be of corrosion resisting metal. Spacers where not exposed to view may be of 14 GA, 20 mm diameter upper suspension nylon rollers to be heavy duty and ground to minimize wear and noise. Precaution to be taken in all cases to avoid friction and rubbing between doors, door suspension and upper sliding framework including hardware.

NOTE:

Double doors to be provided with double overhead tracks and carriers for maximum clear door opening. Units to be provided with trackless bottom with concealed guide for overhead roller doors. Guides to be equipped with limit stops and to prevent telescoping of doors.

### ***Hinged Doors***

Hinged doors for cabinets, counter etc. to be constructed of 18 GA SS with ground and polished smooth. Hinges catches and locking devices to be chrome plated brass. Hinges to be of construction as to eliminate exposed bolts and screw heads. Doors handles to be provided and to be SS as here in after specified.

### ***Counter, Cabinet and Overhead Shelves***

Counter shelves and cabinet shelves to be constructed of 18 GA SS. Overhead cabinets shelf to be constructed of 18 GA SS. All shelving is to be removable type, finished in satin finish and constructed in sections of not more than 750 mm. where shelves are more than 1500mm above floor, underside of shelf to be finished same as top. All shelves to be removable for easy cleaning. Plate warmer shelves to be perforated and removable.

### ***Utensil Rack***

Units to be measured approx. 600mm wide X length as shown on plan, constructed of 50mm X 6mm SS band with ends fully rounded, one piece welded construction, ground and polished smooth to uniform finish. Center rails to be located approx. 250 mm below outer rails and secured by means of welded V shape braces constructed of same material. Pothooks to be sliding type, positioned 150 mm CC for both upper and lower rails. Units to be hung from ceiling slab by means of 50 mm X 6mm SS band hangers with cross bracing to prevent swaying. Supports to be secured to racks by means of SS round heads, bolts and acorn nuts with lock washers. Top of ceiling hangers when not exposed to be secured to a 12 S.S. channel, which shall be anchored to ceiling slab in an approved manner. If supporting channels are exposed they are to be constructed of 12 GA SS secured to finish ceiling in approved manner.

Revolving utensil racks to be as here in after specified and in accordance with details shown on drawings.

### ***Wall Cabinets***

To be of length as shown on plans or which are specified, 325mm deep and 750mm high except where shown otherwise on drawing. All cabinets to have sloped dust proof tops. Exterior bottom to be a flush type construction.

Cabinets to be constructed of 18 GA SS of all welded construction. Cabinet interiors to be provided with fixed bottom shelf and two removable, adjustable, intermediate shelves. Shelves to rest on clips, which shall be secured to keyhole strips fastened to interior of cabinet. Doors to be of double wall construction fully sound proof, constructed in accordance with details here in before set forth.

***Sinks set into Counter or Work Tops***

Sinks to be constructed of same gauge and material as specified for counter top. Tops perimeter of each sink to be continuously electrically welded to the edge of opening in table or counter top with resulting welds ground and polished smooth so that sink and top are integral units. Table or counter tops to be punched to receive 20 mm faucets. All sinks to have vertical and horizontal corners rounded on 25 mm radius with bottom punched to 40mm or 50mm waste outlet depending on which is indicated in drawings. Sinks to be finished and appearance to be same as table or counter tops.

***Baine Marie (Electric)***

To be of same construction as here in before specified as above except that the bottom of the units will not be provided with the steam coils. Bottom of units for electric operation will be furnished with immersion heating elements of size as shown on drawings. Complete with control knob, thermostatic sleeve and dial setting for temperature desired. Immersion heating element to be as manufactured by Escorts Ltd. Or approved equal. False bottom to be constructed to clear immersion heating element.

***Baine Marie Water Chamber***

To be of same construction as here in before specified as above except that the bottom of the units will not be provided with the steam coils. Bottom of units for electric operation will be furnished with immersion heating elements of size as shown on drawings. Complete with control knob, thermostatic sleeve and dial setting for temperature desired. Immersion heating element to be as manufactured by Escorts Ltd. OR approved equal. False bottom to be constructed to clear immersion heating element. Cold pans are to be 150 mm deep and to be of size and shape as shown on the drawings with each cold pan section constructed as integral part of the counter. Cold pans to be constructed of 16 GA SS with all vertical horizontal corners covered with serpentine cooling coils sweated to exteriors. Unit to be insulated on all four sides and bottom with 50 mm of cork set in glycol emulsion. Exterior lining to be of 18 GA galvanized iron with resulting joints fully welded. Top of counter to be flanged down 12 mm and out 12mm into cold pan and counter top. Bottom of pan to be pitched to 25mm chrome plated brass waste outlet.

***Interior of Hot Box***

All interior of hot box will be constructed of 18 SWG SS. Beeded panels duly insulated with 75 mm thick high quality mineral glass wool.

***Front Control Panel***

All equipments will have the front panel made of 18 SWG SS duly beeded and die pressed 20 SWG SS recessed control panel for safety operations.

***Range Burners***

- Pilot lamps with independent control valves to be provided.

- Units to have drip trays with handles below burners.
- Enamelled cast iron pan supports for all burners – with spill trays
- For Dosa plate and chappati plate – MS plate to be ¾” thick with integral grease trap in front.

### ***Trolley***

- All swivel 100 mm dia heavy duty rubberized non marking, and ball bearing with grease proof neoprene or polyurethane tyres.
- 32 mm dia 16 G pipe handles.
- SS channel under supports.
- Rubberised corner supports to be provided.

### ***Kitchen Exhaust Hood***

- Totally welded construction without any bolts and nuts.
- Kitchen ducts may be round / rectangle in shape – cut out to be accordingly provided.
- Removable baffle type SS filters on channels with grease troughs and grease collection drawer.

### ***Electricals***

All electrically operated equipment will be thermostatically controlled with indicating bulbs duly fitted with standard brand heater or equivalent and resistant fibre coated copper wire.

### ***Insulation***

All equipment will be suitable insulated with 25 mm thick high quality sandwich type glass wool sheet.

### ***Granite Tops***

Wherever called for will be 20 mm thick placed on 20 mm thick marine ply and framed with 16 SWG SS angle.

### ***Refrigeration Equipment***

All framework will be SS angle duly covered with 18 SWG SS . Inner 20 SWG 304 quality with PUF insulation fitted with kirloskar hermetically sealed compressor.

## GENERAL SPECIFICATIONS FOR COLD ROOM

(Use these specifications wherever not specified otherwise)

### TECHNICAL SPECIFICATION OF REFRIGERATION SYSTEM / PUF PANEL

<b>COMPRESSOR MAKE</b>	COPELAND / BITZER / KIRLOSKAR COPELAND
<b>COMPRESSOR TYPE</b>	SEMI HERMATIC FOR FREEZER / HERMETIC FOR COOLER
<b>CONDENSOR TYPE</b>	AIR COOLED OVER SIZED TO TAKE CARE 48 DEG C AMBIENT
<b>CONDENSER COIL</b>	RI NAC/STARCOOLER & CONDENSER
<b>EVAPORATOR</b>	RI NAC/STARCOOLER & CONDENSER/BUFFELLO/GUNTER
<b>OIL SEPERATOR</b>	TEMPRALI TE
<b>RECEIVER</b>	PROVI DED
<b>SUCTION AND LIQIUD LINE FILTERS</b>	DANFOSS/ SPORLAN/CATCH ALL
<b>SUCTION ACCUMULATOR</b>	PROVI DED
<b>BUILTIN ELECTRICAL PANEL ( With MCB, Single phase preventor contactor and overload relay)</b>	ABB/SIEMENS/L&T
<b>CONDENSER / EVAPORATOR FAN MOTOR/FAN BLADE</b>	EBM NADI MOTOR/ALSTHOMM AND GRP FAN BLADE
<b>PUF PANEL</b>	RI NAC / EQUI VALENT
<b>PANEL THICKNESS</b>	60 MM FOR COOLER, 150 MM FOR FREEZER(-30 DEG C), 100 MM FOR FREEZER (-20 DEG C)
<b>SHEET LAMINATION</b>	PCGI 0.6 MM OR SS 0.5 MM
<b>FLOOR PANEL</b>	PUF PANEL( NOT PUF SLAB) WI TH TARFELT ON BOTH SIDE PCC ON TOP
<b>PANEL SHEET THCKNESS</b>	0.6 MM CERI TIFIED
<b>PUF DENSITY</b>	40 ± 2 KG/M3
<b>DOOR TYPE</b>	FLUSHED TYPE WI TH HYDRAULIC DOOR CLOSER

( KAYSON USA)

**KICK PLATE / VIEW WINDOW** PROVIDED

**CAM OPERATED SPRING LOADED HINGES**  
KAYSON USA

**STRIP CURTAINS** PROVIDED

**TEMPERATURE CONROLLER** ELECTRONIC WITH BMS ENABLE

**CORNER JOINTS** ANGLED JOINT COVERED WITH PVC FOOD GRADE  
COVING

**PANEL JOINTS** CAM LOCKS

**EXTERNAL / INTERNAL LAMINATIONS OF PANELS**

Panel skins, standard models, standard and optional metal finishes shall be as follows (specify one or a combination of the following):

- a. Exterior lamination of walls and ceiling panel shall be Pre-coated GI and Interior shall be SS 304 only.

1.	THICKNESS OF SHEET	0.6 mm
2.	PENCIL HARDNESS	2H
3.	BEND TEST	2T
4.	CORROSION RESISTANCE	
	a. SALT SPRAY TEST	700 HOURS
	b. HUMIDITY	1000 HOURS
5.	TEMPERATURE RESISTANCE	- 70 TO 150°C
6.	FIRE RESISTANCE	
	a. IGNITABILITY	NON-BURING
	b. FIRE RATING	CLASS - 1

**COLD ROOM CONSTRUCTION DETAIL**

The cold room shall be constructed on the modular principle with each panel being locked securely to adjacent panels and drawn tightly together by the cam-operated locking system. The locks shall be securely foamed in place without any wood or metal being used with locking hole buttons provided. Panel edges will be strength and rigidity with all round tongue and groove jointing to ensure a good, strong, hygienic joint, eliminating the need for gaskets, cover strips, screws or rivets. Two beads of sealant need to be applied to the female recess of each panel before locking tight to the male profile of the next panel. **A silicone sealer shall be applied between the metal edges of the panels inside and outside the cold room to prevent any ingress of moisture.** The cold room shall be erected from 1000mm/1200mm wide panels with corner and partition joints fabricated to suit the site to ensure exact dimensional requirements. **Corner,**



**partition, wall to ceiling and wall to modular floor joints shall be secured internally by aluminium / SS angle section complete with PVC covered profile with spherical ball corner pieces for ease of cleaning.** External exposed corner and ceiling to wall joints are fitted with 20x40 angle secured by thermoplastic drive rivets.

All cold rooms shall conform to BS 2502 technical specifications.

## **DOOR AND DOOR FRAMES**

The doors shall be of the same material, finish and insulation type specified for the panels in that particular cold room.

Door shall be provided with an inside safety release and be provided with provisions for padlocking.

The vendor shall install door and window heaters to prevent condensation from forming on the interior of the door.

Where indicated, pass-through ports shall be located 3 feet above the floor.

Door shall be hinged type. Door shall be able to remain open when opened 120°.

Door shall be in fitting, flush/overlapped mounted, interior and exterior panels with foamed-in place urethane insulation, same construction, as for wall panels. Corners of doors shall be ground and polished.

Door frames shall be of GI. When exterior protection is specified the exterior door frame shall have raised exterior casings to form a stop.

Door shall have a heating element on the ambient side of each door frame head, jambs and threshold. The heating element shall have thermostatic control, factory pre-wired to a 'GS' splice box located above the door on the interior.

Gasket shall be extruded polyvinyl chloride with vulcanised corners and continuous magnetic core at sides and top of door frame. The steel jamb facing shall extend to protect the gasket.

Doors shall be adjusted to be self-closing after installation and floor is finished.

Each hinged door shall have :

Hinges, three (2) each per door, shall be approved type, cam lift, zinc die cast and polished chrome plated/HDPVC. Doors 35" (900 mm) wide and wider shall have four (3) hinges.

Latch shall be as approved, heavy duty chrome plated brass with adjustable keeper, interior safety release and provisions for padlocking.

Door closer shall be of approved quality.

Hardware shall be mounted with 12 gauge reinforced steel tapping plates and machine screws.

Heated viewport shall be approximately 10" (254 mm) wide by 15" (381 mm) high, minimum triple thermopane glass. Viewport wiring to be concealed within door and out top of door.

Door section shall be self supporting constructed similar to wall panels, foamed in place urethane core and 12 gauge steel reinforcing. No wood frame will be permitted. Jambes and headers shall be 18 gauge stainless steel with steel backing in full perimeter.

Doors shall be of same thickness as that of panel.

### **LIGHT FIXTURES AND SWITCHES**

Quantity of light fixtures shall be as per approved in shop drawings. Vendor to indicate on arch. layout lighting fixture arrangement.

Light fixtures shall be ceiling mounted, cast aluminium, fully enclosed, gasketed, vapor tight, weather tight, with shatterproof, heat resistant diffuser.

Light switches shall be minimum 2-way.

Cold storage rooms with doors at each end shall have three way switches on the exterior.

Light switches shall be factory mounted on the latch side of doors and pre-wired with rigid conduit and wiring run within the wall panel, terminated in vapor tight splice box mounted on the ceiling to provide 250/400 lux/sqm.

### **DIGITAL THERMOMETER AND ALARM**

Microprocessor based indicator cum controllers shall be furnished for each cold storage room.

The temperature alarm system shall have the compatibility to be connected to the building management system. Temp. mapping shall be carried out at minimum four points in a room.

### **COMPRESSORS and CONDENSING UNITS**

Units shall be factory assembled complete with air cooled condenser, high-low pressure cutouts, suction, accumulator on low temperature system, sight glass, liquid line dryer, suction and discharge service valves, liquid receiver and electric control panel. The electrical control panel shall be furnished with magnetic motor starter, defrost timer clock, and contactor in accordance with BOQ. Semi-hermetic compressor shall be preferred for blast chiller/freezer.

Capacities shall be based on the following :

- Compartment temperature and evaporating temperature greater than 32 °F (0 °C) 18 to 20 hours operations.
- Compartment temperature greater than 32 °F (0 °C) and evaporating temperature less than 32 °F(0 °C) 18 to 20 hrs. operations.

Condensing units shall be mounted on a steel base to effect a quiet operation. All rotating parts to be carefully balanced for minimum vibration and lubricated with forced or splash oil system. Receiver shall be sized for a complete pump down of the system and shall be with fusible plug.

Compressor units to be provided with suction and discharge back seating type service valves and standard machinery finish.

Motors shall be single speed, maximum 1750 RPM compound wound ball bearings or sleeve bearing. Squirrel cage motors with high starting torque set and low starting current to be used in a 3 phase application.

All machines to be equipped with quick acting type high-low pressure control switches having adjustable range and differential and high pressure cut-out. Cut-out to be automatic reset type.

The condenser shall be standard manufactured part of the equipment. Condensing temperature shall be based upon (48 °C) ambient air.

Other components and accessories, such as suction filter and crank case heater shall also be furnished as per manufacturer standards.

## **OIL SEPARATORS**

Oil separators shall be provided, except when Compressor Manufacturer requires otherwise on all low temperature systems (34 °F) and below and install separator as near as possible to the compressor. The return line shall be connected to the top of the crankcase above the oil level. Where compressor does not have connection for oil return line from separator connect to a tee in the suction line adjacent to the compressor. Exposed oil return line to be provided with shut-off valve of the pack less stem type.

## **COILS and COOLING UNITS (Evaporator Coils min.24 G Copper)**

Units shall be direct expansion type of size and designed to effect required temperature, humidity and to suit application intent. Units shall be furnished and installed in accordance with the BOQ.

Coils shall be hung from the ceiling with min. 13 mm rods with plated steel nuts and washers. Rods shall extend through ceiling to bracing adequate for the suspended weight. Bracing shall be by the walk in coldroom contractor, penetrations shall be sealed. For blast freezer/blast cooler room, floor mounted units shall be preferred.

Unit cooler shall be installed tight to ceiling. All installations adjacent to walls shall be set out a minimum distance conforming to manufacturer's directions, to ensure proper air circulation and performance.

Units with fan or blower and motor shall have thermal overload protection and shall be wired.

Coils for 32 °F (0 °C) and lower shall have an electric/gas defrost controlled by a 24 hour time clock mounted on the compressor rack.

Coils for 33 °F (0.6 °C) and 34 °F ( °C) shall have an air defrost controlled by a time clock mounted on the compressor rack.

Coils for above 34 °F (1 °C) shall have an air defrost in the off cycle controlled by a proper sizing of the coil and the compressor.

Location of coils shall be coordinated with shelving locations.

#### **REFRIGERATION SYSTEM PLANT PIPING**

Refrigeration grade, & fittings to be used for refrigeration piping. Annealed copper tubes to be used in 20 SWG thickness for the line size of ¼", 3/8", ½", 5/8" & ¾". The tubes should be bend with proper tools and avoid joints as much as possible. High quality forged flare brass nuts with long neck to be used for flare joints. Use hard drawn copper pipes of reputed manufacturers for pipe line sizes of 1" & above. These should be minimum 16 SWG thickness and clean from inside. Good quality copper fittings to be used. Take care to purge dry nitrogen prior to any brazing operation to reduce oxygen with in tube to prevent oxidation inside the tubes.

Refrigeration piping should have vibration eliminators in suction and liquid lines and should be neatly laid down and secured with appropriate clamping devices.

The Suction lines should be insulated with 25MM thick **ARMAFLEX /VIDOFLEX** make pipe insulation.

Suitable precautions to be taken in designing and installing the refrigerant lines to avoid oil stagnation spots. (please refer schematic)

The **refrigerant** used should be **R-22** or R134 a or R404a

- NB** :
1. All details of installation, plumbing, entry points through PU PANELS and all other working details should be submitted for approval prior to starting work.
  2. Operating parameters and equipment selection details, piping design etc. must be furnished and prior approval obtained before ordering / arranging for equipment.

#### **BRACKETS & FRAMES**

Brackets and Frames to be used for the out door and indoor installations shall be neatly painted after removing the dust, rust etc with approved color of paint. These items are

to be supplied along with equipments. The rate for installation of the equipments should include all the accessories such as base frames, brackets etc.

#### **DRAINAGE SYSTEM FOR COOLING COILS**

The drainage lines should be provided from the pan of the cooling coils up to the nearest floor drains, which are suitably air locked, by providing siphon traps between the main drainage lines. The drain line would be required to be taken out of the PU panel and let out suitably for drainage of condensate water. The drainage line will be of GI class B / PVC pipe. The pipeline should be neatly laid down with proper slope for easy drain of condensate. The drain pipes are to be insulated to avoid condensation followed by water drip.

#### **PRESSURE TESTING REFRIGERANT LINES & GAS CHARGING**

The installation of refrigeration system and condenser water system need to be approved by the engineer in charge & pressure testing to be carried out in their presence. The refrigeration system needs to be tested for standing pressure at 350 PSIG for 24 Hrs. . The refrigeration system should be evacuated by using a double stage vacuum pump upto 100 micron prior to gas charging.

## **EXHAUST SYSTEM - TECHNICAL SPECIFICATIONS**

### **Details for exhaust only hoods of SS:**

- Hoods to be fabricated in 20 SWG SS sheet and TIG welded for seamless finish facilitates easy maintenance of the surface.
- Tube Light fitting with suitable thermal protection for the lamps incorporated within the hoods to provide minimum 450 LUX on the cooking range.
- Front overhang to capture maximum cooking effluent exhaust air.
- Condensate drain tray with detachable drain collector pan.
- Staggered baffled type Oil eliminators with minimum pressure losses and large surface contact area to increase the capture of effluent and easily cleanable, 20 SWG frames and 20 SWG SS, louvers.
- Suitable flanged cutout for quick connection to the extract duct.

### **Details for Duct:**

- Duct design to suit optimum velocity for minimum pressure loss and low sound level
- Ducting shall be fabricated in GI sheet of 22 SWG; material used will be of LFO Jindal TATA .
- For ducts of greater than 30"x30" the flanges shall be of 35 X35 X 3 mm thk MS angle.
- 8 mm GI rods and painted MS angles of 35x35x3mm thick at an interval of two meters shall be used to suspend the ducting.
- Duct joint to be bolted together with gasket for air tight seals.

### **Details for Blower (Exhaust)**

- Centrifugal backward inclined SISW blower with suitable high static pressure to create the required intake velocities and over come the pressure loss at the inlet of filters and ducts.
- Type: SISW Centrifugal blower. (Motor outside the effluent air stream.)
- Impeller: Backward inclined, non over loading type. ( smaller motor)
- Drive: Mounted directly on motor shaft. (slip losses and lesser maintenance)
- Dynamically balanced to provide a vibration free operation.
- Construction:
  - Casing: in 3 mm thick MS sheet with suitable angle reinforcement.
  - Impeller: in 5 mm thick MS sheet
  - Finish: With two coats of red oxide primer and top coat exterior durable paint.
  - Fan Speed: Not exceeding 1000 RPM.
- Control Panel: Wall mounted incorporated with suitable starter of make siemens/L&T with single phase prevention.

### **Details for Scrubber**

Scrubber to be constructed in MS sheet of 14 SWG and The contaminated exhaust fumes enters through the side and an down stream spray is used to saturate air as it enters the scrubber which cools the air and there by condensing the oil fumes , water vapour, and washes the suspended particulate matter. The air is forced at right angle towards the water tank where it impinges with the turbulent water surface and is cleaned further then moves thru the PVC mist eliminators. The water is recalculated continuously.

**Please find below some general & specific points for consideration for kitchen.**

**WATER & DRAINS**

- It is assumed that the water recd. at the kitchen is filtered and potable. (otherwise suitable filtering equipments will have to be installed at the inlet)
- Ideally the wet areas such as the pot wash / dish wash area should be sunk. This has been marked on the drawing.
- All drain outlets from sinks to have 'L' bracket filter caps and pipes leading to the drain.
- Please note that water points are required in the garbage room as well – wherever it is located.
- Water shall flow opposite to the direction of preparation.
- Hand wash – With hot water/cold water + soap dispenser must be available at staff entry, kitchen staff entry point, gents and ladies lockers and at if possible at receiving area.
- Ice Cube machine / Coffee Machines / Dish Washer etc require water with certain levels of softness – to be verified with the specific equipment requirement.

**ELECTRICAL & LIGHTING**

- All electrical points indicated should be industrial metal clad sockets.
- All lights to be white fluorescent with translucent diffusers / shatter proof.
- Pick up counter lux reading to exceed 450.
- Preparing area must have minimum 350 lux.
- No uncovered line above the ranges or pick up counters in kitchen.

**FLOORING**

- Suggested Kota stone flooring with smooth skirting.
- The same may be used for garbage room

**WALLS**

- Suggested white ceramic tiling up to a minimum height of 7' / alternatively clad with kota stone till 4' height and ceramic tile above till 7' high.
- The same applies for garbage room
- All wall edges to be fitted with edge guards (steel channels).

**FIRE FIGHTING**

- Suggested that we look at heat detectors instead of smoke detectors in the kitchen area.
- Extinguishers to be ideally located in the kitchen.

**LPG**

- LPG leak detection mechanism installed as a safety measure.

**EXHAUST & HOODS**

- Air changes for different areas-



Kitchen-40 air changes per hour. Exhaust shall have -110 m pressure and air qty available should be 17,000/lits/person/hour.

Toilet area should have 20-25 air changes/hour.

Stores 10 air changes/hour.

- Fresh air throw in kitchen minimum 1 ½ to 2 feet behind the range.
- All hoods to be mounted either from the ceiling or wall as per the location.
- No riveting - only seamless welding.
- The blowers / fans for the exhaust system to be ideally located .

## **SPECIFIC POINTS**

In the Kitchen - wherever possible - Fixed glass above 7 feet height for natural light.

Staff entry door / Service Doors – with view panel

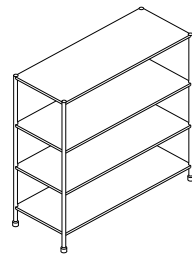



All Service doors should be on heavy duty floor springs OR Door closer / should have view panel and a metal kick board.



### **Servery / Buffet Counter / Live Kitchen**


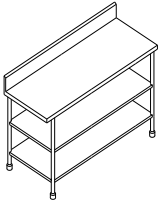
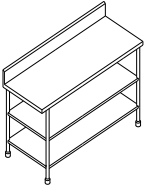
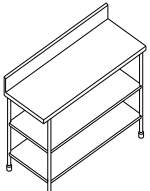
Will need to coordinate with the Architect / Interior / Operations team on the buffet layout and counter detailing. Will need the counter elevation details from the Architect.

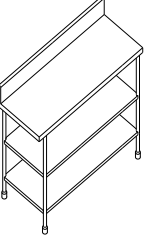
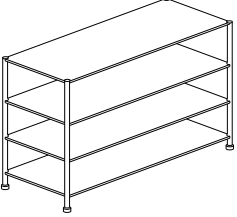
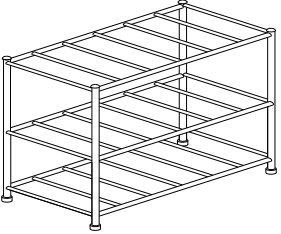
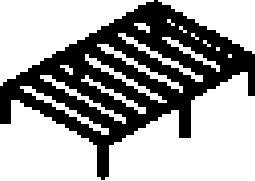
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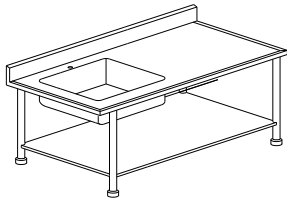
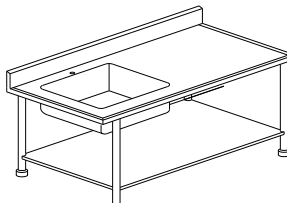
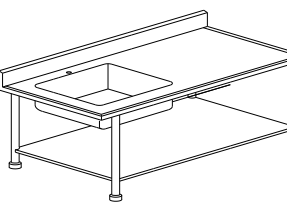
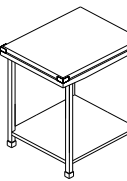

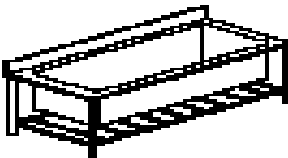

**Name of Work :- Kitchen Equipment Schedule**




Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark	
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence					D. Ambani-M.S. Swaminathan Residence
1	ST 01 to 08/ ST 05 to 14/ ST 04 to 10/ NV 08	SS Storage Rack	Unit to be provided with four (4) shelves, starting at 150 mm and then at equidistant, constructed with 38 mm dia SS pipe of 16 SWG (304).  35X35X3 mm thick SS angle frame under support.  18 SWG (304) SS shelf double beaded on all sides.  Four numbers SS legs with adjustable bullet feet.		1200x450x1800	9	8	10	8	35	25000.00	875000.00	Custom Fabricated
2	ST 09/10/11/12 / ST 02/03/04	Plastic Pallets	Heavy duty plastic pallets / Make Nilkamal or equivalent		1200x1200x100	2	4	3	2	11	9000.00	99000.00	Indian Bought Out
3	ST 11-16 / ST-14 / ST-15 / ST 11-14	PLASTIC STORAGE BINS	Capacity 200kgs / 100 ltrs. Heavy Duty Food grade plastic bins with lids from reputed manufacturers such as Sintex / Neelkamal / Brite			6	6	6	6	24	6500.00	156000.00	Indian Bought Out
4	NV 08 / NV 02	PLASTIC DUST BINS	Plastic heavy duty dust bin with removable lid and built in wheels / 100 ltr capacity - maximum height of 750 mm / base dia 415 mm. Make - Sintex			9	9	9	1	28	6000.00	168000.00	Indian Bought Out
5	ST 17/ST 13/ ST 01/ST 03	ELECTRONIC WEIGHING SCALE	Capacity Of 300 kgs. Unit should have SS Platform of size 750 x 750 mm with a digital instrument panel connected on a vertical stand with a backlit display (Minimum calibration 50 grams). It should be provided with a 5 amp. power cord of minimum 1½ meter length having a battery backup.  Brands - ISI specified brand / approved by weights and Measures department.			1	1	1	1	4	30000.00	120000.00	Indian Bought Out



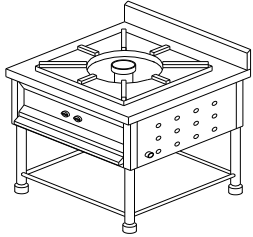
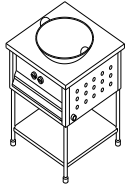
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6	NV 01/ NV 06	4 DOOR VERTICAL FREEZER (1200 ltrs)	The unit shall be of full SS construction with the interior and exterior of SWG 20 SS 304. The inner wall to be suitably insulated with 2 inch PUF. Should have 4 doors, constructed of SWG 18 SS 304. The doors to be provided with locking device with adjustable wings inside. SS wire meshed shelves to be provided. It should be fitted with a digital temperature indicator, control switches and indicator lights. An isolator switch on the front panel near the digital thermometer to be provided for ON / OFF of the refrigerator. The equipment shall be able to maintain temperature range of -15 C to - 20 C. The unit should be provided with a removable SS drip tray. The compressor unit to be mounted on top and should be of Kirloskar / Tecumshah make. completely automatic defrosting and automatic evaporation of defrost water / doors in 304 SS / 150 mm high adjustable feet / rounded internal corners and easily removable runners and grids / The refrigerated compartment designed to 2/1 GN pans / Suitable to operate in ambient temperature up to +43°C / Forced air circulation for rapid cooling and an even temperature distribution / HCFC, CFC and HFC free insulation (Cyclopentane), HCFC and CFC free refrigerant gas (R404a) / High-density expanded polyurethane insulating foam, 60 mm in thickness, with cyclopentane injection / Self closing doors with magnetic door seal / all doors fitted with locks and keys. Four SS legs of 50 mm dia, SWG 16 with adjustable bullet feet at 150 mm from FFL.		1200x675x2100	1	1	1	1	4	115000.00	460000.00	Refrigeration - Indian
7	NV 07 / MK-46/47 / MK-02/05 / MK 05/06	4 DOOR VERTICAL REFRIGERATOR (1200 ltrs)	The unit shall be of full SS construction with the interior and exterior of SWG 20 SS 304. The inner wall to be suitably insulated with 2 inch PUF. Should have 4 doors, constructed of SWG 18 SS 304. The doors to be provided with locking device with adjustable wings inside. SS wire meshed shelves to be provided. It should be fitted with a digital temperature indicator, control switches and indicator lights. An isolator switch on the front panel near the digital thermometer to be provided for ON / OFF of the refrigerator. The equipment shall be able to maintain temperature range of + 2 C to + 6 C. The unit should be provided with a removable SS drip tray. The compressor unit to be mounted on top and should be of Kirloskar / Tecumshah make. Completely automatic defrosting and automatic evaporation of defrost water / 150 mm high adjustable feet / rounded internal corners and easily removable runners and grids / The refrigerated compartment designed to 2/1 GN pans / Suitable to operate in ambient temperature up to +43°C / Forced air circulation for rapid cooling and an even temperature distribution / HCFC, CFC and HFC free insulation (Cyclopentane), HCFC and CFC free refrigerant gas (R404a) / High-density expanded polyurethane insulating foam, 60 mm in thickness, with cyclopentane injection / Self closing doors with magnetic door seal / Four SS legs of 50 mm dia, SWG 16 with adjustable bullet feet at 150 mm from FFL.	 1200X675X2100	1200X675X2100	2	3	2	2	9	110000.00	990000.00	Refrigeration - Indian

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8	MK 06	2 DOOR VERTICAL REFRIGERATOR	The unit shall be of full SS construction with the interior and exterior of SWG 20 SS 304. The inner wall to be suitably insulated with 2 inch PUF. Should have 2 doors, constructed of SWG 18 SS 304. The doors to be provided with locking device with adjustable wings inside. SS wire meshed shelves to be provided. It should be fitted with a digital temperature indicator, control switches and indicator lights. An isolator switch on the front panel near the digital thermometer to be provided for ON / OFF of the refrigerator. The equipment shall be able to maintain temperature range of + 2 C to + 6 C. The unit should be provided with a removable SS drip tray. The compressor unit to be mounted on top and should be of Kirloskar / Tecumshah make. Completely automatic defrosting and automatic evaporation of defrost water / 150 mm high adjustable feet / rounded internal corners and easily removable runners and grids / The refrigerated compartment designed to 2/1 GN pans / Suitable to operate in ambient temperature up to +43°C / Forced air circulation for rapid cooling and an even temperature distribution / HCFC, CFC and HFC free insulation (Cyclopentane), HCFC and CFC free refrigerant gas (R404a) / High-density expanded polyurethane insulating foam, 60 mm in thickness, with cyclopentane injection / Self closing doors with magnetic door seal / Four SS legs of 50 mm dia, SWG 16 with adjustable bullet feet at 150 mm from FFL.		675x675x2100			1		1	80000.00	80000.00	Refrigeration - Indian
9	NV 02/ NV 05/ MK 01/04/07/ MK 49/50/ MK 56 / MK 31/32 / VP 03 / VP 08 / MK 04 / MK 10/11	SS WORK TABLE WITH 2 UNDERSHELVES	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend.  One. 18 SWG (304) SS bottom shelf, starting at 150 mm height and the next shelf at equidistance. Refer drawing for raised splash back.  Four numbers SS tubular legs with adjustable bullet feet.		1200X600X850+150	8	2	5	6	21	24000.00	504000.00	Custom Fabricated
10	VP 03 / 04 / 05 / MK 19/20 / NV 01/04 / VP 06/07/08 / MK 03 / NV 06 / VP 04/06 / NV 05 /	SS WORK TABLE WITH 2 UNDERSHELVES	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend.  One. 18 SWG (304) SS bottom shelf, starting at 150 mm height and the next shelf at equidistance. Refer drawing for raised splash back.  Four numbers SS tubular legs with adjustable bullet feet.		1500X600X850+150	5	6	4	6	21	28000.00	588000.00	Custom Fabricated
11	VP 04 / 05	SS WORK TABLE WITH 2 UNDERSHELVES	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend.  One. 18 SWG (304) SS bottom shelf, starting at 150 mm height and the next shelf at equidistance. Refer drawing for raised splash back.  Four numbers SS tubular legs with adjustable bullet feet.		1400X600X850+150		2			2	28000.00	56000.00	Custom Fabricated

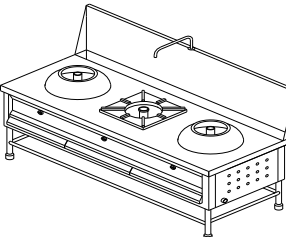
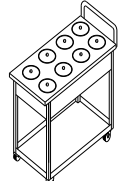
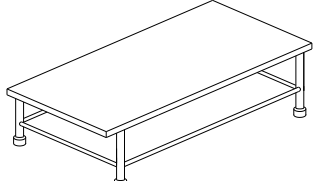
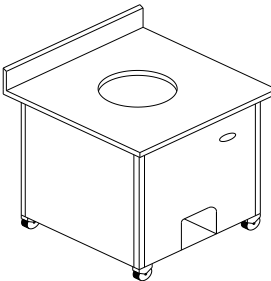
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12	MK 23 / 24 MK 36/39	SS WORK TABLE WITH 2 UNDERSHELVES	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend.  One. 18 SWG (304) SS bottom shelf, starting at 150 mm height and the next shelf at equidistance.		1200X600X850			4		4	24000.00	96000.00	Custom Fabricated
13	MK 34 / 36 / 39 / 41	SS PICK UP TABLE WITH ONE UNDERSHELF	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		900X750X850		4			4	16000.00	64000.00	Custom Fabricated
14	MK 52	SS PICK UP TABLE WITH ONE UNDERSHELF	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1200X600X850	1			1	2	22000.00	44000.00	Custom Fabricated
15	VP 05	SS WORK TABLE WITH 2 UNDERSHELVES	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend.  One. 18 SWG (304) SS bottom shelf, starting at 150 mm height and the next shelf at equidistance. Refer drawing for raised splash back.  Four numbers SS tubular legs with adjustable bullet feet.		1800X600X850+150	2		1	1	4	32000.00	128000.00	Custom Fabricated
16	DW 01 / DW 02 / DW 13 / CSs 01 to 07 / DW 07 / 08 / 09 / 10	CLEAN DISH RACK	Unit to be provided with four (4) shelves, starting at 150 mm and then at equidistant, constructed with 38 mm dia SS pipe of 16 SWG (304). 35X35X3 mm thick SS angle frame under support. 18 SWG (304) SS shelf double beaded on all sides. Four numbers SS legs with adjustable bullet feet.		1200X600X1800	4	12	6	5	27	27000.00	729000.00	Custom Fabricated
17	PW 01 to 03	POT RACKS	Unit to be provided with three (3) shelves, starting at 150 mm and then at equidistant, The uprights should be made of 32 mm dia SWG 16 SS 304 pipe. The top sides of the uprights should be sealed and properly rounded. Shelves should be constructed with 25 mm dia SS pipe of 16 SWG (304) with internal grid of 19 mm dia SS pipe at 100 mm spacing. Four numbers, 38 mm SWG 16 (304) SS tubular legs with adjustable bullet feet.		1200x600x1500	3	3	3	3	12	22000.00	264000.00	Custom Fabricated
18	PW 04 / 05	LOW PLATFORM TABLE FOR POT WASH	The unit should be made of SS Square pipe structure of size 30 x 30 mm x 16 swg SS 304 with adjustable bullet feet and supporting cross bars at every 100 mm space.		1200x600x450	1	2	1	1	5	12000.00	60000.00	Custom Fabricated

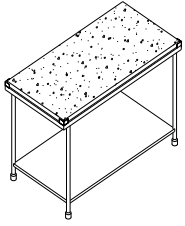
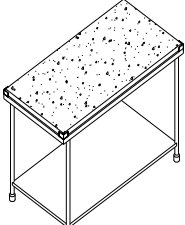
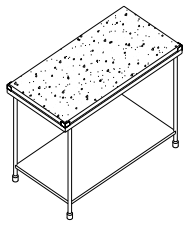
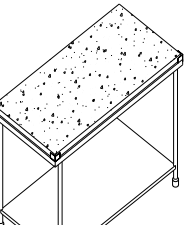
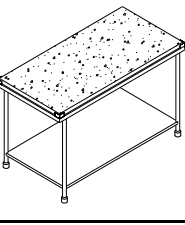

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19	NV 02 / 03 / MK 01/04 / NV 03/04 / VP 06 / MK 18/21 / NV 04/05	SS WORK TABLE WITH SINK	SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Sink size 450X450X250 deep integral with top sheet. (check the drawing for side) with 38mm dia drain coupling, hot and cold water faucet, deck mounted.18 SWG (304) SS bottom shelf starting at 150 mm. Four numbers, SS tubular legs with adjustable bullet feet. Back splash of 150 mm on the rear.		1500X600X850+150	3	4	2	5	14	30000.00	420000.00	Custom Fabricated
20	WP 06 / MK 52/53 / VP 07 / MK 01/07 / MK 51/ MK 54 / MK 13 / NV 04/ WP 07	SS WORK TABLE WITH SINK	SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Sink size 450X450X250 deep integral with top sheet. (check the drawing for side) with 38mm dia drain coupling, hot and cold water faucet, deck mounted.18 SWG (304) SS bottom shelf starting at 150 mm. Four numbers, SS tubular legs with adjustable bullet feet. Back splash of 150 mm on the rear.		1200X600X850+150	5	2	3	4	14	25000.00	350000.00	Custom Fabricated
21	MK 33 / MK 47	SS WORK TABLE WITH SINK	SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Sink size 450X450X250 deep integral with top sheet. (check the drawing for side) with 38mm dia drain coupling, hot and cold water faucet, deck mounted.18 SWG (304) SS bottom shelf starting at 150 mm. Four numbers, SS tubular legs with adjustable bullet feet. Back splash of 150 mm on the rear.		900X600X850+150		2			2	18000.00	36000.00	Custom Fabricated
22	NV 05 / NV 03 / NV 07	BUTCHERS BLOCK / CHOPPING BOARD ON STAND	Chopping board stand should be made of 38 mm dia SWG 16 SS 304 pipe / legs with adjustable bullet feet. The top frame should be made of 25 x 25 x 3 mm thick SS angle frame with proper support and cross bracing. A removable Virgin hard polymer block of 2 inch thick. Provide a SS knife pocket on one side.		600x600x850	1	1	1	1	4	28000.00	112000.00	Custom Fabricated
23	VP 01 / 02	POTATO ONION BIN	Unit of 35X35X3 mm SS angle with 18 G SS mesh construction. SS bin cover with handle and a sliding door at the bottom front for the stored item to be taken out. Four numbers heavy duty castors of 150 mm dia with rubber wheels. Two of the wheels with locking arrangement.		700x700x1000	2	2	2	2	8	23000.00	184000.00	
24	VP 03 / VP 08	VEG WASH SINK	Sink bowl size: 1000 x 450 x 375 mm deep. The bottom should have a shelf similar to that of SS Pot Rack - with SS pipes. Provision to be made to mount the Table Top Jet Spray on the sink. Sink bowl to be provided with 38mm dia BSP drain coupling, hot and cold water faucet, deck mounted. Splash back 150 mm on rear / side.(AS PER DRAWING). Four numbers SS tubular legs with adjustable bullet feet.		1200X600X850+150	1	1	1	1	4	32000.00	128000.00	Custom Fabricated
25		VEG PROCESSOR	Automatic vegetable processor. To process 200 kgs per hour with multiple selection of blades for different cuts. Six different blades to slice / dice / grate and shred to be supplied with the machine. Machine to have inbuilt safety mechanisms. Suggested Brand - Robot Coupe / Halde OR Equivalent			1	1	1	1	4	145000.00	580000.00	Imported

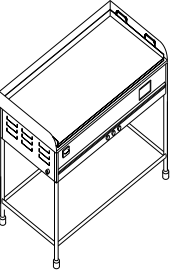
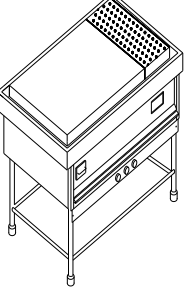
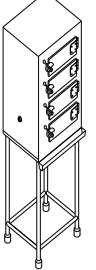

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26		WALK IN COLD ROOM	Unit Should be made from 60mm thick prefab rigid PUF sandwich panels with 0.60 mm thick pre-coated G.I sheet outside and 0.50 mm thick SS 304 inside having the density of 40 kg/m3. The flooring to be Aluminium checkered plate. The cold room should be with ceiling and wall panels interlocked through a cam lock mechanism. The Condensing unit should be fitted with a hermetic compressor. The cooling unit should be split type & air cooled. It should be supplied with a swing type and flush large insulated door having magnetic gasket, safety latch, lock and heavy duty hinges. The room should maintain a temperature of +2 0 C to +8 0 C. An emergency switch or alarm should be provided inside. The cold room should be provided with all accessories like light, light switch, temperature indicator and alarm. The refrigerant used should be R 22 or R 134a. The unit should be as supplied by Rinac / Blue Star / Continental.		3000X2400X2400		1		1	2	500000.00	1000000.00	Refrigeration - Indian
27		WALK IN COLD ROOM	Unit Should be made from 60mm thick prefab rigid PUF sandwich panels with 0.60 mm thick pre-coated G.I sheet outside and 0.50 mm thick SS 304 inside having the density of 40 kg/m3. The flooring to be Aluminium checkered plate. The cold room should be with ceiling and wall panels interlocked through a cam lock mechanism. The Condensing unit should be fitted with a hermetic compressor. The cooling unit should be split type & air cooled. It should be supplied with a swing type and flush large insulated door having magnetic gasket, safety latch, lock and heavy duty hinges. The room should maintain a temperature of +2 0 C to +8 0 C. An emergency switch or alarm should be provided inside. The cold room should be provided with all accessories like light, light switch, temperature indicator and alarm. The refrigerant used should be R 22 or R 134a. The unit should be as supplied by Rinac / Blue Star / Continental.		3800X2400X2400	1				1	550000.00	550000.00	Refrigeration
28		COLD ROOM RACKS - SS PERFORATED RACKS	The shelves should be made of SWG 18 SS 304 sheet. The perforated holes to be 15 mm dia without sharp edges. The bottom shelf should be at 150 mm from FFL. Each rack should have 4 shelves placed equidistant from each and reinforced with 25 x 100 x 25 mm inverted SWG 18 SS channel. Uprights to be made of 38 mm dia SWG 16 SS 304 pipes. Four legs with adjustable bullet feet. (The racks to be fabricated after site measurements)		1200X450X1800	8	6	7	21	22000.00	462000.00	Custom Fabricated	
29	WP 01 / 02 / 03	WET GRINDER	Capacity 10 ltrs (02) / 07 ltr (01). Tilting model with complete SS construction including the lid and the casing. Brand Rishab - Trident or equivalent			3	3	2	3	11	55000.00	605000.00	Indian Bought Out

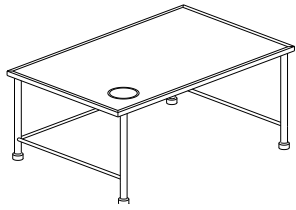
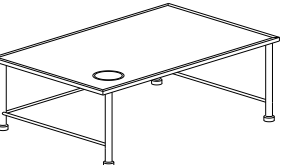
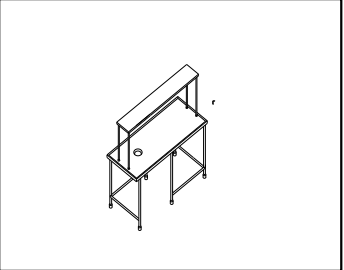
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30	WP 04	PULVERISER	Body made of SWG 18, 35 X 35 X 3 mm SS angle framework. All food contact parts to be of SS 304. Vertical upright pipes of 16 SWG with adjustable bullets. Top tray of 16 SWG 16"X 18"X 4"height with 1"slope on the front side. Electric motor of 5 HP. 415 V , 3 phase . Electric panel to consist of overload relay with start / stop switch. The machine should be suitable for Wet-Pulpy and Dry crushing. The Wet cum dry grinder should be able to grind Spices, green chillies, fresh ginger, garlic, fresh fruits, fruit pulp, vegetables.			1	1		1	3	55000.00	165000.00	Indian Bought Out
31	WP 05	POTATO PEELER	Capacity 10 kg. The unit should be of vertical design. Unit should be mounted on a stand made of SWG 16 SS 304 with suitable arrangements for accommodating the drain pipe of the peeler. The stand should be fitted with a dirt collection tray of removable type below the peeler. The body should be constructed of SWG 16 SS 304. The peeling disk should be separate for onion and potato. The abrasive on the disk should be fiberglass carborundum and the disk should be easily removable for cleaning and maintenance. Unit should be provided with a water inlet.  1.5 HP motor for 3 phase operation. Built in safety mechanism – the machine should stop if the door is opened.			1	1		1	3	45000.00	135000.00	Indian Bought Out
32	MK 07 / 08 / 10 / 11 / 19 / 20 / 22 / 23 / MK 12 / 13 / 14 / 16 / 17 / 21 / MK 53 / MK 25 / 26 / 35 / 36 / 38 / 39	HIGH PRESSURE SINGLE BURNER RANGE	SWG 18 (304) SS on both sides with air vents. SWG 16 (304) SS on top with front turned down and cut out to receive one gratings. 35X35X3 mm SS angular framework fully welded. One 400X400 heavy duty cast iron removable vessel rest. One T-35 burner (72000 BTU per hour) with pilot and controls. One, SWG 20 (304) SS spillage tray with SS strip handle. Manifold - ½ inch dia provided on both sides. Four (4) nos SS legs with adjustable feet. No splash back.		750X750X600	8	10	8	8	34	18000.00	612000.00	Custom Fabricated
33	MK 09 / 12 / 15 / 16 / 18 / 21 / MK 24 / 27 / 34 / 37	SS SIDE TABLE - LOW HEIGHT	16 SWG (304) SS top, double beeded on all sides. SS tubular legs with nylon bullets.		1200X750X600	6	6		4	16	22000.00	352000.00	Custom Fabricated
34	MK 15 / 18 / 19 / 22	SS SIDE TABLES - LOW HEIGHT	16 SWG (304) SS top, double beeded on all sides. SS tubular legs with nylon bullets.		900X750X600			4		4	18000.00	72000.00	Custom Fabricated
35	MK 13 / 14 / MK 24 / 25 / 28 / 29	BULK FRYER	Body to be constructed of SWG 18 (304) SS on both sides with air vents and front with control panel. 35X35X3 mm SS angular framework fully welded. SWG 16 (304) SS on top with front turned down and cut out to receive 1 fryer bowl and a oil drip hole. Provide a receptacle for oil drip from top sheet. One nos. SS frier bowl. One T-50 burner (1,00,000 btu/hr). Manifold - ½ inch dia provided on both sides. SWG 20 (304) SS spillage tray with SS strip handle. 16 SWG , 38mm dia SS pipe legs with adjustable bullet feet.		750x750x750	2	2	2	2	8	30000.00	240000.00	Custom Fabricated


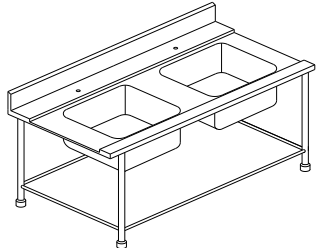


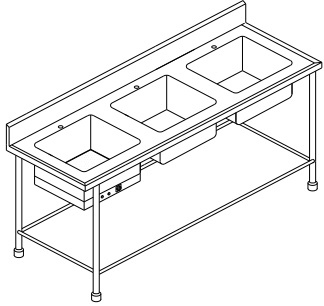


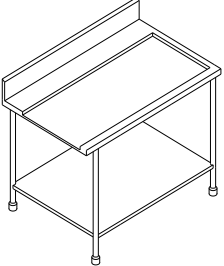

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36	MK 17 / MK 33	CHINESE RANGE	SWG 18 (304) SS on both sides with air vents.SWG 16 (304) SS on top with front turned down and cut out to receive three gratings. 35X35X35 SS angular framework fully welded.One no. 400X400 heavy duty cast iron removable vessel rest and two nos. 425 mm dia heavy duty cast iron vessel rest. Three (3) nos. T-35 burners with individual pilot and controls. Three (3) nos, SWG 20 (304) SS spillage tray with SS strip handle. Manifold -½ inch dia common for all burners provided on both sides. Four (4) nos SS legs with adjustable feet.		1500x750x850+600	1	1		1	3	50000.00	150000.00	Custom Fabricated
37	MK 18a	MASALA TROLLEY	The unit should be like a table trolley designed with SWG 16 (304) SS top, double beaded on all sides, secured to SS angle frame, with cut out to fit in inserts of 8 round containers to hold spices. Containers should of SS 304, removable of size 150 mm dia and 150 mm deep with individual lids. Unit to be fitted with heavy duty noise free castors of 100 mm dia with two castors having locking facility.  The trolley should have 25 mm dia SWG 16 SSS 304 pipe handles on both sides. One undershelf of SWG 18 SSS 304 at the bottom at 150 mm from FFL.		900X600X800	2	2	2	2	8	17000.00	136000.00	Custom Fabricated
38	MK 25 / MK 26 to 28 / MK 40 / 41 / 42 / 43	SS LOW PLATFORM TABLE - BULK FOOD PICK UP	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets.		1500X600X600	4	3	3	4	14	23000.00	322000.00	Custom Fabricated
39	MK 24 / MK 42 / 43 / 44 / 45 / MK 50 / 51 / MK 34 / 38 / MK 14 / 15 /16/17	SS PICK UP TABLE WITH ONE UNDERSHELF	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1500X600X850	6	8	2	4	20	25000.00	500000.00	Custom Fabricated
40	MK 26 / 27 / MK 40 / 41 / MK 08 / 09	MASONARY TANDOOR	Three Tandoors and side tables with granite work top / The outer cladding should be Kota stone on the sides and Marble or Granite on top. Proper heat insulation by glass wool and fire clay bricks to be done. POT - Earthen Pot (Suitable Size). ASH OUTLET - to be provide.		900X900X850	2	2	2	2	8	23000.00	184000.00	Custom Fabricated
41			The framework should be made of 25 x 25 SWG 14 boxed welded angles, and should be angle reinforced on all sides and bottom and intermediate positions. Exterior of base reinforced with heavy gauge MS inverted channel framework on all sides and suitable to fix castors. OUTER BODY-16 gauge SS Sheets with 25mm thk Mineral Wool insulation all around. INNER BODY - 3mm thk MS Sheets. POT - Earthen Pot (Suitable Size). ASH OUTLET - Provide Insulated door on hinges & latch(Size 6" x6" opening).		750x750x850	2	2	2	2	8	40000.00	320000.00	Custom Fabricated




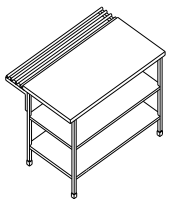
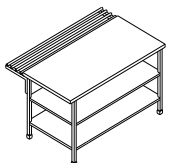
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42	MK 28	GRANITE TOP WORK TABLE WITH ONE UNDERSHELF	25 mm thick granite top on 3mm thick marine ply sitting on SWG 16 (304) SS channel frame with SWG 12 SS corner pieces. SWG 18 (304) SS shelf at 150 mm from FFL double beaded on all sides. 38 mm dia SWG 16 (304) SS pipe legs with adjustable feet.		1400X600X850		1			1	20000.00	20000.00	Custom Fabricated
43	MK 29 / MK 11	GRANITE TOP WORK TABLE WITH ONE UNDERSHELF	25 mm thick granite top on 3mm thick marine ply sitting on SWG 16 (304) SS channel frame with SWG 12 SS corner pieces. SWG 18 (304) SS shelf at 150 mm from FFL double beaded on all sides. 38 mm dia SWG 16 (304) SS pipe legs with adjustable feet.		1200X600X850	2	1		1	4	20000.00	80000.00	Custom Fabricated
44	MK 10	GRANITE TOP WORK TABLE WITH ONE UNDERSHELF	25 mm thick granite top on 3mm thick marine ply sitting on SWG 16 (304) SS channel frame with SWG 12 SS corner pieces. SWG 18 (304) SS shelf at 150 mm from FFL double beaded on all sides. 38 mm dia SWG 16 (304) SS pipe legs with adjustable feet.		1000X600X850	1			1	2	20000.00	40000.00	Custom Fabricated
45	MK 31 / 32	GRANITE TOP WORK TABLE WITH ONE UNDERSHELF	25 mm thick granite top on 3mm thick marine ply sitting on SWG 16 (304) SS channel frame with SWG 12 SS corner pieces. SWG 18 (304) SS shelf at 150 mm from FFL double beaded on all sides. 38 mm dia SWG 16 (304) SS pipe legs with adjustable feet.		1200X600X850			2		2	22000.00	44000.00	Custom Fabricated
46	MK 42	GRANITE TOP WORK TABLE WITH ONE UNDERSHELF	25 mm thick granite top on 3mm thick marine ply sitting on SWG 16 (304) SS channel frame with SWG 12 SS corner pieces. SWG 18 (304) SS shelf at 150 mm from FFL double beaded on all sides. 38 mm dia SWG 16 (304) SS pipe legs with adjustable feet.		900X600X850			1		1	18000.00	18000.00	Custom Fabricated
47	MK 30 / MK 12 / MK 27	DOUGH KNEADER	The frame structure to be made of MS with proper paint. Should be of heavy duty construction. The spiral arm, the bowl and the protection grid should be of SS 304. It should have a guard around the bowl and should have a protection device which will stop the machine when the grid is lifted. The movement transmission should be through pulley and belt.  The electric system should comply with all standard safety rules. 1.5 HP, 3 phase – two speed motor like Crompton or equivalent with DOL starter to be provided. It should have two separate timer for two different speeds.		25 kg flour capacity ( 40 kg dough)	1	1	1	1	4	80000.00	320000.00	Indian Bought Out

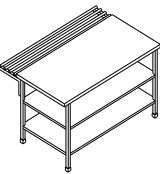
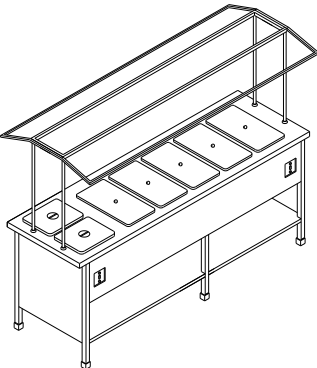


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48	MK 35 / 37 / MK 02 / 03	TAWA	16 SWG SS top with 150 mm high raised splash on rear, returned 25 mm & down 12 mm. Both sides of top rolled down 50 mm flush with body cladding. Front of worktop bull nosed. Worktop to over hang the base body by 50mm from front and 75mm at rear. SWG 18 (304) SS on all sides with air vents on both sides. On fully welded SS angle frame. Cooking top of 20 mm thick polished SS plate with 75 mm raised rear and side edges with grease collecting trough in front and grease collecting drawer. Two V-1050 burners (40,000 btu/hr) with one pilot and control valve. 16		1500x750x850+150	2	2	1	2	7	50000.00	350000.00	Custom Fabricated
49	MK 38 / 40 / MK 05 / 06 / MK 33 / 35	CHAPPATI PLATE CUM PUFFER	16 SWG SS top with 150 mm high raised splash on rear, returned 25 mm & down 12 mm, with body cladding. Front of worktop with bull nosed front turned down by 50 mm. Worktop to over hang the base body by 50mm at front and by 75mm at rear. SWG 18 (304) SS on all sides with air vents on both sides. On fully welded SS angle frame. Cooking top shall comprise of a Chapatti Plate top on left side with puffer grates on the right side for all the units. Cooking top of 20 mm thick polished M.S. plate. Plate shall be free from any imperfection and shall gently be sloped towards front to a channel provided with a S.S drawer for grease collection. Puffer grating - Two nos on right side of chapatti plate removable C.I. perforated chapatti puffer grate tops shall be provided w/suitable burners below, with control valves and pilots. Two V-600 burners with one pilot and control valve. One V-450 burner with pilot and control valve for puffer. Ignition window separately for chapatti burner and puffer. SWG 20 (304) SS spillage tray with strip handle under puffer. 16 SWG, 38mm dia SS pipe legs with adjustable nylon bullet.		1500x750x850+150	2	2	2	2	8	52000.00	416000.00	Custom Fabricated
50	MK 46 / 48 / MK 53 / 55 / MK 08 / 09	IDLI STEAMER - SELF STEAM GENERATING	Body to be constructed of SWG 16 (304) SS, on a SS tubular stand. Steam inlet on one side. SS Steam control valves to be provided. Four number doors with rubber beading and locking facility. drip tary in the front. SS die pressed idli trays to steam idlis - total of 240 idlis at a time. Provide additional set of Trays with the machine. Four numbers, SS tubular legs with adjustable bullet feet			2	2	2	2	8	150000.00	1200000.00	Custom Fabricated
51	MK 49 MK 48	CHEST FREEZER FOR ICE CREAMS (400 Itrs)	Completely SS 304 body. INTERIOR TEMP -5 deg C to -20 deg		1500x600x850	1	1	1	1	4	60000.00	240000.00	Refrigeration - Indian

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52	DW 01 / 02 / 15 / DW 08 / DW 11 / 16	SOILED DISH LANDING TABLE WITH GARBAGE CHUTE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame. ½ inch raised marine edges. Waste chute - One no. 6 inch diameter with rubber edges on left (confirm with the drawing) hand side 175 mm from the side edges. 25 mm dia drain outlet on the left hand side corner connected to waste outlet with lever handle. Four numbers, SS tubular legs with adjustable bullet feet. Side and rear cross bracing support to give a clear front to move in waste bin under the table.		1800X650X850	1	3	2	1	7	25000.00	175000.00	Custom Fabricated
53	DW 17 / DW 13	SOILED DISH LANDING TABLE WITH GARBAGE CHUTE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame. ½ inch raised marine edges. Waste chute - One no. 6 inch diameter with rubber edges on left (confirm with the drawing) hand side 175 mm from the side edges. 25 mm dia drain outlet on the left hand side corner connected to waste outlet with lever handle.		2100X650X850	1			1	2	28000.00	56000.00	Custom Fabricated
54	DW 03 / 14 / 16 / 17	DISH LOADING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1500X650X850+150		4			4	22000.00	88000.00	Custom Fabricated
55	DW 12 / 19	DISH LANDING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1500X650X850+150		2			2	22000.00	44000.00	Custom Fabricated
56	DW 07	DISH LOADING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1200X650X850+150	1			1	2	22000.00	44000.00	Custom Fabricated
57	DW 06	DISH LOADING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		900X650X850+150			1		1	15000.00	15000.00	Custom Fabricated
58	DW 07 / DW 01 / DW 02	SOILED DISH LANDING TABLE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame. ½ inch raised marine edges. Waste chute - One no. 6 inch diameter with rubber edges on left (confirm with the drawing) hand side 175 mm from the side edges. 25 mm dia drain outlet on the left hand side corner connected to waste outlet with lever handle. Four numbers, SS tubular legs with adjustable bullet feet. Side and rear cross bracing support to give a clear front to move in waste bin under the table.		1500X750X850+600	1		1	1	3	28000.00	84000.00	Custom Fabricated
59	DW 18 / 19 / DW 14 / 15	SOILED DISH LANDING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1500X650X850+150	2			3	5	24000.00	120000.00	Custom Fabricated
60	DW 11	SOILED DISH LANDING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1200X650X850+150	1				1	22000.00	22000.00	Custom Fabricated
61	DW 08 /	CLEAN DISH LANDING TABLE	16 SWG (304) SS top, double beaded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1500X650X850+150			1		1	26000.00	26000.00	Custom Fabricated



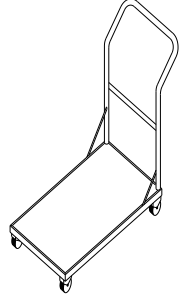
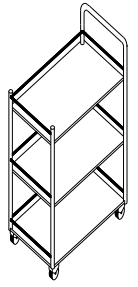

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62	DW 10 / DW 03 / DW 11	CLEAN DISH LANDING TABLE	16 SWG (304) SS top, double beeded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1200X650X850+150	2			2	4	22000.00	88000.00	
63	DW 10	DISH LOADING TABLE	16 SWG (304) SS top, double beeded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1500X650X850+150			1		1	26000.00	26000.00	Custom Fabricated
64	DW 12 / 15	SOILED DISH LANDING TABLE	16 SWG (304) SS top, double beeded on all sides. SS tubular legs with nylon bullets. One undershelf at 150 mm from FFL.		1200X650X850			1		1	22000.00	22000.00	Custom Fabricated
65	DW 13 / 14 / 15 / 16 / DW 03 / DW 20 / 21	SS TABLE ON CASTORS	To be constructed of 16 SWG (304) SS top, double beeded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend. One undershelf, 18 SWG (304) SS bottom shelf, starting at 150 mm height. Four numbers, heavy duty GI castors with rubber wheels of 100 mm dia. Two wheels should have locking arrangement.		1200x600x850	4	4		4	12	22000.00	264000.00	Custom Fabricated
66	DW 04	PRE WASH SINK (DOUBLE SINK)	Constructed of 16 SWG (304) SS top, double beeded on all sides and secured to 38X38X3 mm SS angle welded framework. Bowl size 450X450X250 deep integral with top sheet - check the drawing for position of the bowl. In the center 38mm dia BSP drain coupling, hot and cold water faucet, deck mounted. Splash back 150 mm on rear / side.(AS PER DRAWING). 18 SWG (304) SS bottom shelf starting at 150 mm. Four numbers SS tubular legs with adjustable bullet feet. Fabricated to assist free movement of standard dish wash rack. To be provided with imported hand held spray unit. T&S brand. Other details as per general specifications.		1500X650X850+150		1			1	32000.00	32000.00	Custom Fabricated
67	DW 06	PRE WASH SINK	Constructed of 16 SWG (304) SS top, double beeded on all sides and secured to 38X38X3 mm SS angle welded framework. Bowl size 450X450X250 deep integral with top sheet - check the drawing for position of the bowl. In the center 38mm dia BSP drain coupling, hot and cold water faucet, deck mounted. Splash back 150 mm on rear / side.(AS PER DRAWING). 18 SWG (304) SS bottom shelf starting at 150 mm. Four numbers SS tubular legs with adjustable bullet feet. Fabricated to assist free movement of standard dish wash rack. To be provided with imported hand held spray unit. T&S brand. Other details as per		1200X650X850+150	1				1	30000.00	30000.00	Custom Fabricated
68	DW 06	PRE WASH SINK	Constructed of 16 SWG (304) SS top, double beeded on all sides and secured to 38X38X3 mm SS angle welded framework. Bowl size 450X450X250 deep integral with top sheet - check the drawing for position of the bowl. In the center 38mm dia BSP drain coupling, hot and cold water faucet, deck mounted. Splash back 150 mm on rear / side.(AS PER DRAWING). 18 SWG (304) SS bottom shelf starting at 150 mm. Four numbers SS tubular legs with adjustable bullet feet. Fabricated to assist free movement of standard dish wash rack. To be provided with imported hand held spray unit. T&S brand. Other details as per		950X650X850+150				1	1	20000.00	20000.00	Custom Fabricated

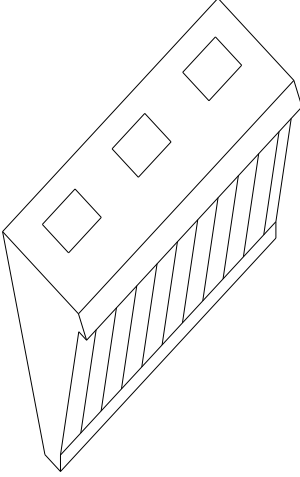
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69	DW 02 / 09 / DW 01 / 09 / DW 05 / 09 / DW 13 / 18	3 SINK UNIT WITH STERLISER	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 SS angle welded framework. Sink - Two (2) nos, Size 450X450X300 deep sink integral with top sheet on left side with 38mm dia drain coupling, hot and cold water faucet, deck mounted. Sterilising tank -One of size 450X450X350 deep, fitted with 38mm dia drain coupling and ball valve. Heating -U type thermostatically controlled heating element. 2 KW/ single phase. 150 mm splash back on the rear. Four number legs, with adjustable bullet feet.		1800X650X850+150	2	2	2	2	8	45000.00	360000.00	Custom Fabricated
70		PRE RINSE SHOWER UNIT	1100 Flex Hose with Overhead Spring & Spray Valve Assembly / Finger hook / 3/8" NPT X 18" Riser / Lever handles with color coded indexes and spring check eternal cartridges / Self-Closing Pre-Rinse Spray Valve with Rubber Bumper & 1.42 GPM Flow Control Spray Face / Splash Mounted. Make - T&S OR ELECTROLUX			1	1	1	1	4	25000.00	100000.00	Imported
71	DW 05	RACK CONVEYOR MACHINE	DISHWASHER RACK CONVEYOR TYPE- a capacity of 120 racks per hour. Twin tank fully automatic with wash and rinse cycle. Wash temperatures of 55 C to 65 C and rinse temperatures of 85 C to 90 C. Unit should be fitted with automatic dosing pump facility for the detergent and rinse agent. Fully insulated machines with heat recovery system. Unit should be with a built in drier. Appropriate water softner to be provided with the machine. Suitable models from Hobart OR Meiko. To be provided with standard set of racks for plates / glasses / cutlery. A additional set of 18 racks ( 8 plate / 6 glass / 4 cutlery)				1			1	1250000.00	1250000.00	Imported
72	DW 06 / DW 03 / DW 04 /	DISH EXIT TABLE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to 35X35X3 mm SS angle welded framework. Top sheet to be sound deadend. Fabricated to fit the standard dish wash rack movement.Four numbers, SS tubular legs with cross supports and adjustable bullet feet. 150 mm rear splash back wherever possible.		1200X650X850+150	1	1	1	1	4	22000.00	88000.00	Custom Fabricated
73		WATER SOFTENER	3700 LTR per regeneration capacity / less than 40 ppm quality water output / Suggested Make - European WaterCare Systems - Model AT 23/M		640X275X450		1			1	70000.00	70000.00	Imported

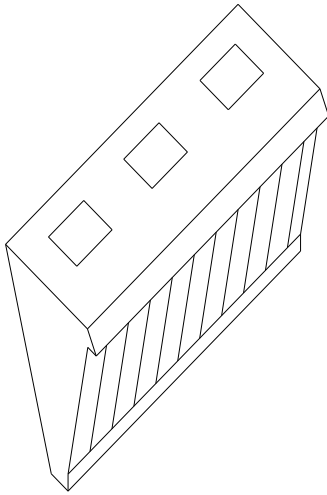
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74		WATER SOFTENER	1500 LTR per regeneration capacity / less than 40 ppm quality water output / Suggested Make - European WaterCare Systems - Model AT 10/M		640X275X450	1		1	1	3	60000.00	180000.00	Imported
75		EXTRA DISH WASH RACKS	Plate Racks			8	12	8	8	36	2200.00	79200.00	Indian Bought Out
75.1			Cutlery Racks			4	6	4	4	18	2200.00	39600.00	Indian Bought Out
75.2			Glass Racks			4	6	4	4	18	2200.00	39600.00	Indian Bought Out
76	DW 04 / DW 05	HOOD TYPE DISH WASH MACHINE	Automatic hood type dishwasher (corner type operation) with a speed of 50-60 racks per hour. Suitable models from Meiko (Ecostar) or Hobart. With standard racks supplied with the machine. Suitable water softener to be provided with the machine. Detergent dosing & Rinse agent dosing pumps to be included in the quote / 6 plate racks / 4 cutlery racks / 4 glass racks to be included			1		1	1	3	300000.00	900000.00	Imported
77	DW 11 / DW 12 / DW 14	WASTE DISPOSER / CRUSHER	Garbodrain Model G 3000 with 3 hp motor		600 x 600 x 700	1	1	1	1	4	105000.00	420000.00	Indian Bought Out
78	SER 01 / SER 03	BAINE MARIE SIDE TABLE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame. SWG 18 (304) SS sheet covering on three sides. 18 SWG (304) SS bottom shelf starting at 150 mm and the next shelf at equidistant from the top. Four numbers SS legs with adjustable bullet feet. The tray rail should be made of 19 mm dia SS pipe with required support at equal intervals.		1200x675+300x850	4	8	7	4	23	25000.00	575000.00	Custom Fabricated
79	SER 03	BAINE MARIE SIDE TABLE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame. SWG 18 (304) SS sheet covering on three sides. 18 SWG (304) SS bottom shelf starting at 150 mm and the next shelf at equidistant from the top. Four numbers SS legs with adjustable bullet feet. The tray rail should be made of 19 mm dia SS pipe with required support at equal intervals.		2000x675+300x850	1				1	32000.00	32000.00	Custom Fabricated

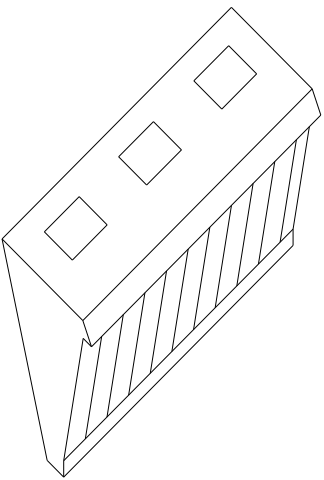
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80	SER 03	BAINE MARIE SIDE TABLE	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame. SWG 18 (304) SS sheet covering on three sides. 18 SWG (304) SS bottom shelf starting at 150 mm and the next shelf at equidistant from the top. Four numbers SS legs with adjustable bullet feet. The tray rail should be made of 19 mm dia SS pipe with required support at equal intervals.		1500x675+300x850			1		1	30000.00	30000.00	Custom Fabricated
81	SER 02 / SR 03	BAINE MARIE - HEATED	Constructed of 16 SWG (304) SS top, double beaded on all sides and secured to welded SS angle frame, with cut out to fit in five rectangular 1/1 and two 1/2 gastronom containers. Gastronom containers to be 200 mm deep with lids. The tank of the baine marie should be provided with an online connection with a ball valve of 15 mm dia and a drain valve of 15 mm dia. 10 mm thick acrylic clear sneeze guard on top of the food counter at 600 mm height, resting on 25mm dia SWG 16 (304) SS pipe upright and SS frame. SWG 18 (304) SS sheet covering on three sides. 18 SWG (304) SS bottom shelf starting at 150 mm. Thermostatically controlled 3KW heating element with rotary ON/OFF switch with light indicator on the side. Water sensor to be provided in the unit to prevent heating element getting damaged due to lack of water. The unit should have 2 mtr supply cord with industrial plug. Six numbers SS legs with adjustable bullet feet. The tray rail should be made of 19 mm dia SS pipe with required support at equal intervals.		2100x675+300x850+600	4	4	4	4	16	95000.00	1520000.00	Custom Fabricated
82		CUTLERY STERILISER	SS 16 G body with top cut out to accommodate six rectangular containers of 200 mm depth. Body to be insulated and single heating element to heat water. Water drain out to be provided with a lever.		450x300x300	4	4	4	4	16	12000.00	192000.00	Custom Fabricated
83		WATER COOLER	Completely SS Body. 200 ltr capacity. To be provided with suitable water filter equipment			2	2	2	2	8	65000.00	520000.00	Refrigeration - Indian
84		WATER COOLER SIDE TABLE	Construction specification same as equipment number 13 but with 3 undershelves - bottom at 150 mm and the other 2 equidistant from each other. Shelves to be provided with drain holes.		900x600x1200	2	2	2	2	8	18000.00	144000.00	Custom Fabricated
85		AIR CURTAIN	Centrally mounted heavy duty motor high velocity and CFM industrial air curtain. Suggested company - Acme Environment control systems or Almonard. Door opening to be verified at site.		1800 mm long	1	1	1	1	4	25000.00	100000.00	Indian Bought Out




Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark	
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence					D. Ambani-M.S. Swaminathan Residence
86		TOASTER	HATCO TOASTER - Toast-Qwik ® Model TQ-800 Conveyor Toaster with state-of-the-art electronic controls and power save mode			2	2	2	2	8	90000.00	720000.00	Imported
87		EXTRA GASTRONOM PANS	1/1 GN Pan 200 mm deep			12	12	12	12	48	3800.00	182400.00	Indian Bought Out
88		INSECTOCUTORS	Company - Pest Control India OR equivalent brand - Model - Low Line - Convertible model - OR equivalent model mounted on wall or ceiling. 2 tubes of 24". If wall mounted 2100 from FFL			10	10	10	10	40	6500.00	260000.00	Indian Bought Out
89		PLATFORM TROLLEYS	Unit to be constructed of SWG 16 (304) SS double beaded on all sides on 35X35X3 mm SS angle welded framework. SWG 16 (304) SS, 1 ½ inch dia pipe handle fixed to body with SWG 14 (304) SS angular support. Four numbers 150 mm dia all swivel heavy duty rubberized castors to take loads of 150 kgs. Two of the wheels to have locking arrangement.		1050x600x900	1	1	1	1	4	18000.00	72000.00	Custom Fabricated
90		UTILITY TROLLEYS	Three (3) tray type shelves of SWG 16 (304) SS, to be reinforced with channels of SWG 16 (304) SS. All three shelves to be equidistant. 32 mm dia SWG 16 (304) SS pipes to extend on top as handle at 100 mm clear height from the top shelf. 100 mm dia all swivel rubberized castors with a load capacity of 70 kgs.		950x600x1000	4	4	4	4	16	22000.00	352000.00	Custom Fabricated
91		SS EDGE GUARDS	SS angles to be grouted to the wall edges. Each angle to be 1200 mm long. Quantity indicated is approximate		SS ANGLE OF 30 x 30 X 1.5	20	20	20	20	80	1000.00	80000.00	Custom Fabricated
92		DRAIN GRATING / TROUGH / TROUGH OUTLET (VERTICAL OR HORIZONTAL - AS PER SITE CONDITION)	Removable S.S Grating of 304 of suitable size with 25 mm height / Grating with hairline finishing / Grating with 5mm thick for outside ring, 3mmthick for interior section / Grating has to be slip-resistant for one side, Plain on the others / 70 mm Trough to be made with 16 Gauge AISI 304 SS / Trough to be provided with drain outlet in the centre of the unit with all sides sloping towards centre / Drain out let of the trough to have 16 gauge extension flange of 40 mm depth and 100 mm dia. for entry in the floor drain / Trough has to be fully welded with no gaps / MAKE - VIANEN OR EQUIVALENT		650x350x70	22	24	18	24	88	18000.00	1584000.00	Custom Fabricated

Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark	
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence					D. Ambani-M.S. Swaminathan Residence
93		EXHAUST HOOD OVER COOKING RANGES	It shall be constructed of 20 swg SS and shall be box type in front, rear & sides raised up and turned at 90 degree. It shall have a 75 mm wide gutter running along the perimeter for oil collection with removable oil plug. From approx. 150 mm above the grease gutter at the rear, there shall be a framework at 45° made of 20 swg SS. The framework shall be provided with 500 x 500 x 50 mm thick removable grease filters. The filters shall have an outer frame constructed of 20 swg SS. To the frame, 25 x30x 25 mm "C" type 22 swg SS channels shall be welded, which will form a baffle for air movement. The filters shall be provided along the length of the hood with gaps between the filters closed. The filters should be easily removable & washable. The filters and framework shall be provided with weep holes for draining of oil. Approx. 300 mm above the grease gutter in front, there shall be provided a 20 swg SS frame, welded to the top and inside of the front side. To this frame, bulkhead lights shall be fitted, which shall be factory wired and terminated to a junction box.										
			The sheet used in the fabrication of the unit shall be free from warps, dents and other imperfections and all edges shall be smooth. The construction should be welded and not rivetted. Wall Mounted - The unit shall be wall mounted OR ceiling mounted - at 1950 mm FFL in the front and 1500 mm FFL at the rear.										
93.1	H 01	EXHAUST HOOD OVER DOSA PLATES	4200		4200 x 900 x 600		1			1	98000.00	98000.00	Custom Fabricated
93.2	H 02	EXHAUST HOOD OVER CHAPPATI PLATES	4200		4200 x 900 x 600		1			1	98000.00	98000.00	Custom Fabricated
93.3	H 03	EXHAUST HOOD OVER TANDOOR	2200		2100X1000X600		1			1	62000.00	62000.00	Custom Fabricated
93.4	H 04 / 05	EXHAUST HOOD OVER BULK BURNERS	16000		8100 x 900 x 600		2			2	190000.00	380000.00	Custom Fabricated
93.5	H 06 / H 07	EXHAUST HOOD OVER IDLI STEAMER	1500		900 x 750 x 600		2			2	27000.00	54000.00	Custom Fabricated
93.6	H 08	EXHAUST HOOD OVER PANTRY RANGE			1500X900X600		1			1	40000.00	40000.00	Custom Fabricated
93.7	H 09	EXHAUST VENT FOR DISH WASH MACHINE					1			1	20000.00	20000.00	Custom Fabricated

Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark		
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence	D. Ambani-M.S. Swaminathan Residence					
93.8		Ducting for Exhaust & Fresh Air	Ducting – GI Sheet of Jindal / Tata / equivalent make, Made out of GI 22 / 24 SWG along with MS Flanges for blower inlet and outlet connection. Qty mentioned is approximate for fresh air and exhaust ducting. Supply of air Grills, with VCD with fresh air filters of 20 microns.	per feet	Pls ascertain from the drawing		1			1	150.00	150.00		
93.9		Blowers - Exhaust	Centrifugal blower (for exhaust ). / 60mm total static , Motor rating to be finalised based on tolat cfm requirement.				3			3	175000.00	525000.00		
94		Blowers - Fresh Air	Centrifugal blower (for FRESH AIR). / 60mm total static , Motor rating to be finalised based on tolat cfm requirement.				1			1	125000.00	125000.00		
95		EXHAUST HOOD OVER COOKING RANGES	It shall be constructed of 20 swg SS and shall be box type in front, rear & sides raised up and turned at 90 degree. It shall have a 75 mm wide gutter running along the perimeter for oil collection with removable oil plug. From approx. 150 mm above the grease gutter at the rear, there shall be a framework at 45° made of 20 swg SS. The framework shall be provided with 500 x 500 x 50 mm thick removable grease filters. The filters shall have an outer frame constructed of 20 swg SS. To the frame, 25 x30x 25 mm “C” type 22 swg SS channels shall be welded, which will form a baffle for air movement. The filters shall be provided along the length of the hood with gaps between the filters closed. The filters should be easily removable & washable. The filters and framework shall be provided with weep holes for draining of oil. Approx. 300 mm above the grease gutter in front, there shall be provided a 20 swg SS frame, welded to the top and inside of the front side. To this frame, bulkhead lights shall be fitted, which shall be factory wired and terminated to a junction box.											
			The sheet used in the fabrication of the unit shall be free from warps, dents and other imperfections and all edges shall be smooth. The construction should be welded and not rivetted. Wall Mounted - The unit shall be wall mounted OR ceiling mounted - at 1950 mm FFL in the front and 1500 mm FFL at the rear.											
95.1	H 01	EXHAUST HOOD OVER DOSA PLATES	3300		3300 x 900 x 600	1			1	2	77000.00	154000.00	Custom Fabricated	
95.2	H 02	EXHAUST HOOD OVER CHAPPATI PLATES	3300		3300 x 900 x 600	1			1	2	77000.00	154000.00	Custom Fabricated	
95.3	H 03	EXHAUST HOOD OVER TANDOOR	2200		2100X1000X600	1			1	2	52000.00	104000.00	Custom Fabricated	
95.4	H 04 / 05	EXHAUST HOOD OVER BULK BURNERS	16000		8100 x 900 x 600	2			2	4	190000.00	760000.00	Custom Fabricated	
95.5	H 06 / H 07	EXHAUST HOOD OVER IDLI STEAMER	1500		900 x 750 x 600	2			2	4	27000.00	108000.00	Custom Fabricated	

Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark	
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence	D. Ambani-M.S. Swaminathan Residence				
95.6	H 08	EXHAUST HOOD OVER DISH WASH MACHINE			900X900X600	1			1	2	27000.00	54000.00	Custom Fabricated
95.7		Ducting for Exhaust & Fresh Air	Ducting – GI Sheet of Jindal / Tata / equivalent make, Made out of GI 22 / 24 SWG along with MS Flanges for blower inlet and outlet connection. Qty mentioned is approximate for fresh air and exhaust ducting. Supply of air Grills, with VCD with fresh air filters of 20 microns.	per feet	Pls ascertain from the drawing	1			1	2	150.00	300.00	Custom Fabricated
95.8		Blowers - Exhaust	Centrifugal blower (for exhaust) . / 60mm total static , Motor rating to be finalised based on tolat cfm requirement.			4			4	8	150000.00	1200000.00	
95.9		Blowers - Fresh Air	Centrifugal blower (for FRESH AIR). / 60mm total static , Motor rating to be finalised based on tolat cfm requirement.			1			1	2	125000.00	250000.00	
96		EXHAUST HOOD OVER COOKING RANGES	It shall be constructed of 20 swg SS and shall be box type in front, rear & sides raised up and turned at 90 degree. It shall have a 75 mm wide gutter running along the perimeter for oil collection with removable oil plug. From approx. 150 mm above the grease gutter at the rear, there shall be a framework at 45° made of 20 swg SS. The framework shall be provided with 500 x 500 x 50 mm thick removable grease filters. The filters shall have an outer frame constructed of 20 swg SS. To the frame, 25 x30x 25 mm “C” type 22 swg SS channels shall be welded, which will form a baffle for air movement. The filters shall be provided along the length of the hood with gaps between the filters closed. The filters should be easily removable & washable. The filters and framework shall be provided with weep holes for draining of oil. Approx. 300 mm above the grease gutter in front, there shall be provided a 20 swg SS frame, welded to the top and inside of the front side. To this frame, bulkhead lights shall be fitted, which shall be factory wired and terminated to a junction box.										
			The sheet used in the fabrication of the unit shall be free from warps, dents and other imperfections and all edges shall be smooth. The construction should be welded and not rivetted. Wall Mounted - The unit shall be wall mounted OR ceiling mounted - at 1950 mm FFL in the front and 1500 mm FFL at the rear.										
96.1	H 01 / H 02	EXHAUST HOOD OVER IDLI STEAMER	1500		900 x 750 x 600			2		2	27000.00	54000.00	Custom Fabricated
96.2	H 03	EXHAUST HOOD OVER BULK BURNERS	14000		5800 x 900 x 600			2		2	140000.00	280000.00	Custom Fabricated
96.3	H 04	EXHAUST HOOD OVER CHAPPATI PLATES	5000		5000 x 900 x 600			2		2	120000.00	240000.00	Custom Fabricated
96.4	H 05	EXHAUST HOOD OVER TANDOOR	5100		1800X1000X600			1		1	45000.00	45000.00	Custom Fabricated

Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark	
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence	D. Ambani-M.S. Swaminathan Residence				
96.5	H 06	EXHAUST HOOD OVER DISH WASH MACHINE			900X900X600			1		1	27000.00	27000.00	Custom Fabricated
96.6		Ducting for Exhaust & Fresh Air	Ducting – GI Sheet of Jindal / Tata / equivalent make, Made out of GI 22 / 24 SWG along with MS Flanges for blower inlet and outlet connection. Qty mentioned is approximate for fresh air and exhaust ducting. Supply of air Grills, with VCD with fresh air filters of 20 microns.	per feet	Pls ascertain from the drawing			1		1	150.00	150.00	
96.7		Blowers - Exhaust	Centrifugal blower (for exhaust) . / 60mm total static , Motor rating to be finalised based on total cfm requirement.					3		3	150000.00	450000.00	
96.8		Blowers - Fresh Air	Centrifugal blower (for FRESH AIR). / 60mm total static , Motor rating to be finalised based on total cfm requirement.					1		1	125000.00	125000.00	
97		LPG BANK	<p>The pipes shall be of MS seamless schedule 40 or TATA 'C' class ERW pipe. The main pipeline should be of 2" dia with respective ball valve. The pipeline should have seamless schedule 40 pipe fittings such as Tee, Elbow and other fittings up to 1" dia and the pipe from 1 " " dia should be hydraulically bent.</p> <p>There should be two numbers of manifold (each with the specified number of cylinder adaptors) made of seamless schedule 40 pipes with required fittings like NRV, cylinder adaptor (click on type) with flexible pipe of 3' of United make.</p> <p>There should be an isolation ball valve in both the manifold to operate the manifold individually.</p> <p>There should be a main gas shut off valve inside and outside the gas bank to isolate the LPG supply in case of emergency. The main pipeline should run upto the kitchen area and from there it will be distributed to all the kitchen equipments with a 2nd stage regulator of United make.</p> <p>There should be a pressure gauge with a needle control valve installed inside the kitchen.</p> <p>The entire gas pipe line should be clamped properly with MS clamps on the wall.</p> <p>Once the entire pipe line is completed the same needs to be pressure tested.</p> <p>2 manifolds of 8 cylinders each</p>			1	1		1	3	75000.00	225000.00	

Sl. No.	Item				Quantity				Total	Unit Rate	Amount	Remark	
	Code	Equipment	Specifications	Reference Image	Size LxBxH	G.D. Birla - Vishwesvariah Hall	Vikram Sarabha Hall	C.V. Raman Residence	D. Ambani-M.S. Swaminathan Residence				
98		LPG BANK	<p>The pipes shall be of MS seamless schedule 40 or TATA 'C' class ERW pipe. The main pipeline should be of 2" dia with respective ball valve. The pipeline should have seamless schedule 40 pipe fittings such as Tee, Elbow and other fittings up to 1" dia and the pipe from 1 " " dia should be hydraulically bent.</p> <p>There should be two numbers of manifold (each with the specified number of cylinder adaptors) made of seamless schedule 40 pipes with required fittings like NRV, cylinder adaptor (click on type) with flexible pipe of 3' of United make.</p> <p>There should be an isolation ball valve in both the manifold to operate the manifold individually.</p> <p>There should be a main gas shut off valve inside and outside the gas bank to isolate the LPG supply in case of emergency. The main pipeline should run upto the kitchen area and from there it will be distributed to all the kitchen equipments with a 2nd stage regulator of United make.</p> <p>There should be a pressure gauge with a needle control valve installed inside the kitchen.</p> <p>The entire gas pipe line should be clamped properly with MS clamps on the wall.</p> <p>Once the entire pipe line is completed the same needs to be pressure tested.</p> <p>2 manifolds of 6 cylinders each</p>					1		1	60000.00	60000.00	
99		LPG LINING	Please quote per running feet (including all accessories)		length given is an estimate only	200	200	150	200	750	350.00	262500.00	
100		GAS (LPG) LEAKAGE DETECTION SYSTEM	<p>Electronic gas leak detection system with flame proof sensing modules, hooter, monitor panel with LED display, automatic main shut off mechanism of make - GAS VIGIL TECHNOLOGIES .</p> <p>The number of sensors to be determined by the size of the kitchen and the gas bank.</p> <p>10 + 2 sensor model</p>			1	1		1	3	175000.00	525000.00	
			8 + 2 Sensor model						1		1	150000.00	
101		AUTOMATIC CHAPPATI MAKING MACHINE - LPG FIRED	COSMOS ACH 900 OR EQUIVALENT / Fully automatic Chappati machine / to produce 900 chappatis per hour / SS cover & body with thermal insulation. Electrical - 1 kw heating element / 1 HP motor 3 phase / Burner LPG operated		1300X1300X1500	1	1	1	1	4	550000.00	2200000.00	Indian Bought Out
102		HOOD OVER CHAPPATI MACHINES	Construction specifications as given earlier		1500X1500X600	1	1	1	1	4	75000.00	300000.00	Custom Fabricated
											Total	3599990.00	