

PROPOSAL FOR SUPPLY & INSTALLATION OF

PROJECT 1: FULLY STAINLESS STEEL A/M MINERAL WATER PLANT
CAPACITY: 3000LPHEXPANDABLE UPTO 6000LPH

PROJECT 2: FULLY A/M BOTTLING PLANT 45BPM

PROJECT 3: 20LITER JAR WASHING & FILLING

PROJECT 4: INKJET BATCH CODING

PROJECT 5: WATER TESTING LABORATORY

PROJECT 6: PET BLOWING MACHINE 1200BPH

Client:-

M/S Karom Enterprises

Vill. & Post- Mauyaduvanshpur, Faizabad, U.P.

Email: pepsico.anupam@gmail.com

Submitted By:-



conceive . integrate . execute

SYNERGY ENGINEERS & PROJECTS

Office & Works: 56/55, Site-4, Sahibabad Industrial Area, Ghaziabad - 201010 (U.P.) India

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23rd July 2019

Dear Sir,

This is with reference to the discussion held with your good self regarding your requirement of water treatment plant for packaged drinking water project.

In this regard, we are submitting herewith our offer.

We have designed the plant as per your requirement and shall meet all the Indian/ International standard norms for packaged drinking water.

We have included all the necessary equipments to give you a well-engineered and reliable Water Treatment for Packaged Drinking Water.

The detailed offer is as per attached INDEX and ANNEXURES.

We hope that you will find the above in line with your requirement.

Kindly contact us for any further information / clarification require in this matter.

We shall be glad to furnish the same.

Thanking you and anticipating a favorable reply.

Yours truly,
for Synergy Engineers And Projects

Sudheer Jaiswal
Mob: 9868679965



PROJECT:

FULLY A/M PACKAGED DRINKING WATER PLANT 3000LPH WITH FULLY A/M FILLING & PACKAGING LINE

ANNEXURES

ANNEXURE I	FULLY A/M R.O. BASED MINERAL WATER PLANT
ANNEXURE II	FULLY A/M BOTTLING MACHINE FOR WATER
ANNEXURE III	INKJET BATCH CODING MACHINE
ANNEXURE IV	LABORATORY FOR WATER TESTING
ANNEXURE V	SEMI A/M PET BLOWING MACHINE WITH AUXILIARIES
ANNEXURE VI	PRICE SCHEDULE
ANNEXURE VII	SCHEDULE OF EXCLUSIONS & TERMINATION POINTS
ANNEXURE VIII	COMMERCIAL TERMS & CONDITIONS



ANNEXURE – I

PACKAGED WATER PLANT BASED ON REVERSE OSMOSIS TECHNOLOGY



Capacity: 3,000 Lts. Per Hour (3m³ per Hour)

BASIS OF DESIGN AND CAPACITY

OBJECT:

To commission a Mineral water plant 3000 liters per hour.

ASSUMPTIONS:

No. Of working days	:	360 days
No. Of working hours	:	10-16 hours
Capacity utilization	:	91-95%

INPUTS (Raw water Quality):

Total Dissolved Solids	:	< 1000 PPM
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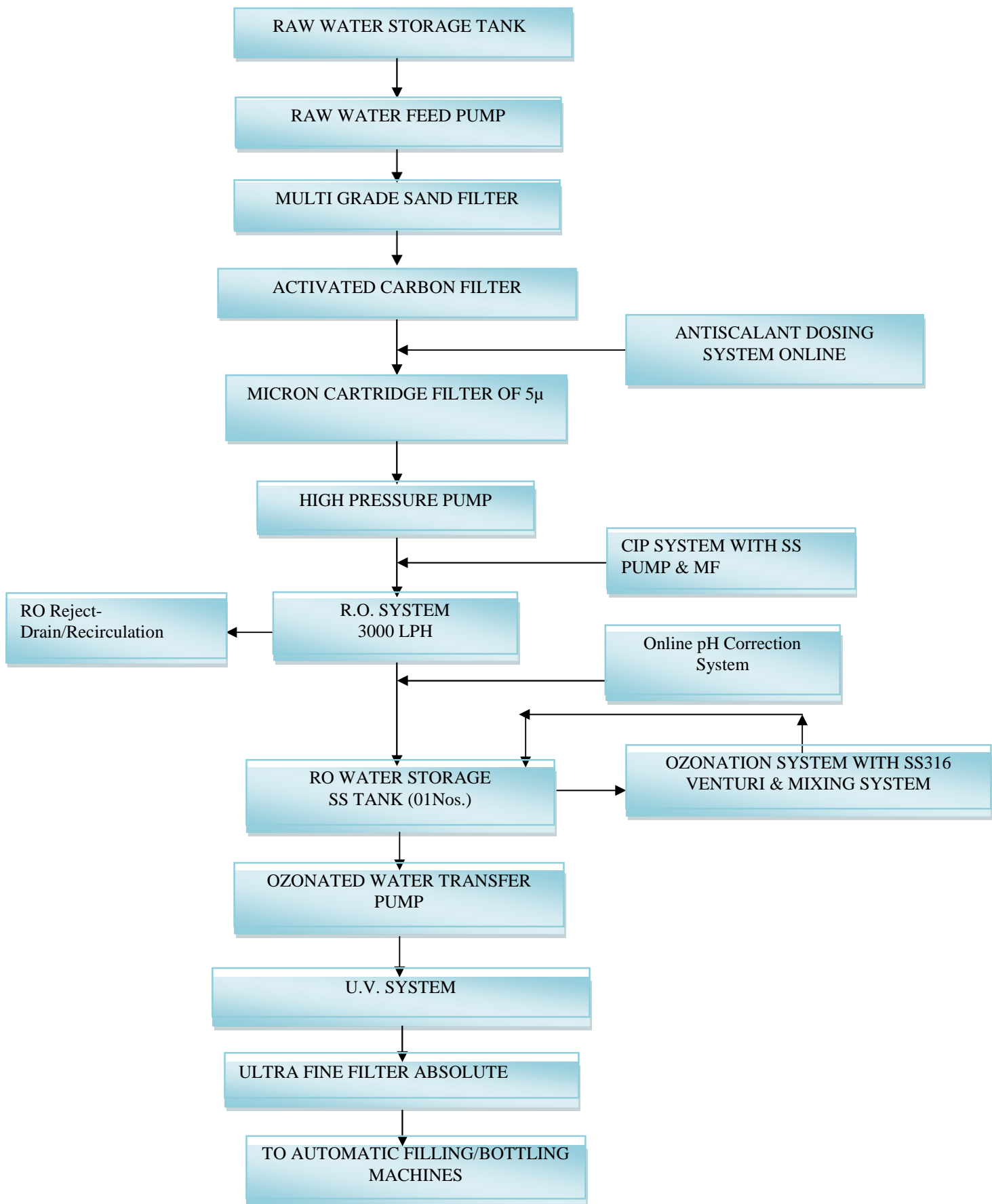
OUTPUT (Treated Water Quality):

Total Dissolved Solids	:	< 50 PPM
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FINAL OUTPUT TDS	:	As Per requirement
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TREATMENT PROCESS FLOW CHART





PROCESS TECHNICAL SPECIFICATIONS

CONTENTS

PRE-TREATMENT SECTION

- Raw water Feed pump.
- Multigrade sand bed filter.
- Activated carbon filter.
- Pressure gauges to check differential pressure.(A,B,C,D,)
- Anti Scalant Dosing System.

FINE FILTRATION & REVERSE OSMOSIS BLOCK

- S.S. Micron filter
- R.O. membrane with housing
- Stainless Steel Vertical High Pressure Pump with motor.
- Skid for mounting R.O. equipments and controls
- HP Switch & LP Switch for high Pressure pump

POST TREATMENT SECTION

- Ozonator Unit Cap. 10gms/hr With Venturi System.
- Stainless Steel Ozone Blending Tank with transfer pump.
- Stainless Steel Vertical High pressure pump.
- Ultra Violet unit

CONTROL INSTRUMENTS

- S.S. Electrical Control panel
 1. TDS & pH meter are on-line digital type
 2. Pressure Gauges E, F, G,H.
 3. Switches for Control with indication.

□ MEMBRANE FLUSHING SYSTEM (CIP)

Membranes flushing / cleaning system with tank, SS pump, micron filter.



TECHNICAL SPECIFICATION MINERAL WATER PLANT 2000LPH

Raw Water Feed Pump

Quantity	:	One No.
Type	:	Horizontal Centrifugal
Material of Cons.	:	CI
Capacity	:	7,500 Lts/hr @ 26MWC
Make	:	Kirloskar
Motor	:	TEFC, 3 PH., 415 V, 2900 rpm

PRE-TREATMENT SECTION

COMMON PRETREATMENT FOR R.O.

PROCESS – **SYNERGY MAKE STAINLESS STEEL MULTIGRADE SAND BED FILTER** – TO REMOVE SUSPENDED / UNDISSOLVED IMPURITIES.

Technical Data

Nos. off	:	One
Working	:	Down-flow
Max. Working Pressure (Kg/Cm ²)	:	10.0
Min. Working Pressure (Kg/Cm ²)	:	2.1
Max. flow rate (Lts/hr)	:	6000
Min flow rate (Lts/hr)	:	3000

Pressure Vessel

Type	:	Vertical Cylindrical
MOC	:	S.S.-304
Testing Pressure (Kg/Cm ²)	:	10.0
Maximum Flow Rate	:	6000 LPH
Working dia. (mm)	:	600
Height on Straight (mm)	:	1600

Filtration Media

Type	:	Multimedia sand with underbed
Bed Depth (mm)	:	1100

Operation System

Type	:	Semi Automatic
Flow Monitoring unit	:	Multiport Valve
Quantity	:	One No.
Make	:	MIDAS

Frontal Pipe Line

MOC	:	S.S.-304
Quantity	:	One Lott
Size (mm)	:	40
Internal Laterals for Collection of filtered water	:	S.S.-304



COMMON PRETREATMENT FOR R.O.

PROCESS – **SYNERGY MAKE STAINLESS STEEL ACTIVATED CARBON FILTER**– FOR DECHLORINATION, DEODOURING, & DECOLOURING PLACED AFTER SAND BED FILTER.

Technical Data

Nos. off	:	One
Working	:	Down-flow
Max. Working Pressure (Kg/Cm ²)	:	10.0
Min. Working Pressure (Kg/Cm ²)	:	2.1
Max. flow rate (Lts/hr)	:	6000
Min flow rate (Lts/hr)	:	3000

Pressure Vessel

Type	:	Vertical Cylindrical
MOC	:	S.S.-304
Testing Pressure (Kg/Cm ²)	:	10.0
Maximum Flow Rate	:	6000 LPH
Working dia. (mm)	:	600
Height on Straight (mm)	:	1600

Filtration Media

Type	:	Activated Carbon with underbed
Bed Depth (mm)	:	1100

Operation System

Type	:	Semi Automatic
Flow Monitoring unit	:	Multiport Valve
Quantity	:	One No.

Frontal Pipe Line

MOC	:	S.S.-304
Quantity	:	One Lott
Size (mm)	:	40
Internal Laterals for	:	S.S.-304



SYNERGY MAKE FINE FILTRATION THROUGH MOCRON CARTRIDGE



PRE-TREATMENT FOR R.O. STREAM FINE FILTRATION FOR CONDITION R.O. FEED TO ACHIEVE IDEAL SDI < 3 PLACED AFTER FINE FILTRATION UNIT.

Technical Data

Rating	:	5 microns
MOC	:	Polypropylene – Wounded Type
Make	:	H2O
Size	:	2.5” (dia) x 20” (L)
Flow rate	(Lts/hr) :	6000
Nos. off	:	1
Micron Ratings	:	05 micron

Cartridges Housing

Nos. off	:	One No.
MOC	:	S.S.-304
Accessories.	:	Inlet, Outlet connections with air vent.

Anti- Scalant Dosing System:

PROCESS – ANTI-SCALANT DOSING -TO AVOID SCALING OVER R.O. MEMBRANES.

Feeder	:	Electronic Metering Type
Quantity	:	One No.
Capacity	:	0-6LPH @ 4 bar
Make	:	Edose
Storage tank	:	PP Chemical Grade
Capacity	:	100 Lts
Control	:	Synchronized for auto operation with feed pump.



REVERSE OSMOSIS MODULE

Technical Data

Treated Water Quantity (R.O. Outlet)	(Lts/hr)	:	3000
Working Pressure	(PSIG)	:	120 - 180
Permeate TDS		:	Less than 50 mg/l
Final Water TDS		:	As per Requirement

Desalination Elements / Membranes

Type	:	TFC Brackish water High rejection Polyamide type
Make	:	Dow/Hydronautics, USA
Model	:	8040
Quantity	:	03Nos.

Membrane Housings

Type	:	Horizontal Pressure Vessel
Size	:	8.2 " x 3.2 mtr.
Quantity	:	One Nos.

High Pressure Pump

Quantity	:	One No.	
Type	:	Vertical Multistage Centrifugal	
MOC	:	Stainless Steel 304	
Make	:	Lubi/Shakti	
Drive Motor	:	TEFC, 3 PH., 415 V, 2900 rpm	
Discharge Capacity	(Lts/hr)	:	7000 Lts/hr
Pressure	(PSIG)	:	115 (G & H)

Interconnecting Pipe Line

Quantity	:	1 Lott
MOC	:	Stainless Steel 304



ROUTINE MEMBRANE FLUSHING / CLEANING SYSTEM

CIP SYSTEM

Technical Data

Permeate Water Storage Tank

Quantity	:	One No.
MOC	:	HDPE
Accessories	:	Inlet, Outlet, overflow & drain connect
Capacity (Lts)	:	100

Flushing Pump

Quantity	:	One No.
Type	:	Horizontal Centrifugal
Pump Make	:	Shakti/Lubi
MOC	:	Stainless Steel-304
Discharge Capacity (Lts/hr)	:	3000
Pressure (PSIG)	:	22

Micron Cartridges Filter

Rating	:	5 microns
MOC	:	Polyproplene- Wounded Type
Make	:	H2O
Size	:	4.5'' (dia) x 20'' (L)
Flow rate (Lts/hr)	:	3000
Nos. off	:	One lott

Cartridges Housing

Nos. off	:	One No.
MOC	:	SS304
Accessories	:	Inlet, Outlet connections with air vent.



CONTROL INSTRUMENTS FOR SAFE OPERATION FOR EACH R.O. UNIT.

- a) Flow Meter : To Measure Permeate & Concentrates & Blending flow rate
- Quantity : Two Nos.
Type : Rota meter (1,2)
Make : Aster/ Flowstar
- b) Pressure Gauge : To measure feed & Concentrate
- Quantity : Two Nos.(E&F)
Range : 0-500 PSIG
Make : H-Guru/ Mass
Type : Back Mounted
- c) Low Pressure Switch : To limit the min. pressure on High Pressure pump inlet
- Quantity : One No.
Capacity : 0-100 PSIG
Make : INDFOS
- d) High Pressure switch : To limit the max. feed pressure on R.O. inlet
- Quantity : One No.
Capacity : 0-500 PSIG
Make : INDFOS

R.O. Skid: 1 No. for R.O. Unit

The components of R.O. block should be **STAINLESS STEEL Skid** mounted in a perfect aesthetic layout and alignment for mounting of components like membrane housing, HPP, control instruments.



POST TREATMENT SECTION

OZONATOR WITH OXYGEN SS316 VENTURI



TREATMENT PROCESS – HIGH DEGREE OF OXIDATION BY REACTIVE OXYGEN OF OZONE FOR LONG SHELF LIFE.

Generator Capacity	:	High capacity 12gms/hr
COMPRESSOR		
Max. Flow	:	120 Lts/min
Max. Pressure	:	60 PSIG
Motor	:	3/4 HP
Feed Gas	:	Dried air
Air Dryness	:	50 deg. Dew point
No. of cells	:	Three (Corona discharge high frequency)
Cooling of cells	:	Air cooling
Voltage	:	220 V +- 15%
Frequency	:	50 Hz +- 2%
Phase	:	Single

MAIN FEATURES:

- High Barrier Quartz Dielectric has high operation life (minimum 3years life, at high ozone concentration)
- High Barrier Quartz have high breakdown temperature (12000 C) excellent resistant to ozone and high frequency dielectric strength
- Water Cooled to give constant ozone output
- IGBT based higher frequency residual inverter for high ozone concentration at lower power
- PWM design to withstand wide voltage fluctuation
- Over voltage and sewage protection
- Interlock Protection for no feed gas and loss of cooling
- Optional PLC Controller
- Oil Filled high Voltage transformer for long life
- All the machines are checked using state of art ozone sensors.(UV adsorption based)
- All the inverter under goes series of tasting, using oscilloscope LCR Meters, and high voltage breakdown meters to ensure trouble free performance



STAINLESS STEEL TANK FOR OZONATION & STORAGE



Type	:	Vertical Cylindrical with Top & Bottom dish ends
Quantity	:	One No.
Material of Cons.	:	Stainless Steel-304
Capacity	:	3000 Liters
Qty.	:	01No.

OZONE RECIRCULATION CUM TRANSFER PUMP TO BATCH PROCESSING

Quantity	:	One Nos.
Capacity	:	5,000 Lts/hr @ 32 MWC
Make	:	Shakti/Leo
Motor	:	TEFC, 3 PH., 415 V, 2900 rpm,
Material of Cons.	:	Perfectly Ozone Resistant
One Lott STAINLESS STEEL Pipeline, S.S. Ball Valves & Fittings & Processing Arrangement.		



ULTRA FINE FILTRATION SYSTEM: WATER CONDITIONER



PROCESS – For fine filtration and conditioning of product water and to make the Product water crystal clear, shining and fresh.

Technical Data

Rating	:	0.5 microns
MOC	:	Polypropylene – Wounded Type
Make	:	H2O
Size	:	2.5” (dia) x 20” (L)
Flow rate	(Lts/hr) :	6000
Nos. off	:	1

Cartridges Housing

Nos. off	:	One Nos.
MOC	:	Stainless Steel-316
Accessories.	:	Inlet, Outlet connections.

pH CORRECTION SYSTEM:

PROCESS – To dose minerals to enhance the taste and balance pH.

Feeder	:	Electronic Metering Type
Quantity	:	One No.
Capacity	:	0-6LPH @ 4bar
Make	:	Edose
Storage tank	:	PP Chemical Grade
Capacity	:	500Lts
Control	:	Synchronized for auto operation with High pressure pump.



ULTRA VIOLET UNIT AT FINAL OUTLET



- Purpose** To sterilize the water and to make the water Ecoli/Bacteria free and microbial free.
- Specifications**
- a) Model No.: ECS70L
 - b) Maximum Capacity – RO Water 99% Transmission: 6.0m³/hr
 - c) No. of UV lamps: 1
 - d) No. Of Quartz Jackets & MOC: Qty: 1No.
MOC: Synthetic Quartz (UVT > 95%)
 - e) Total Power (kW) @ 230 VAC : 0.8
 - f) System Power Factor: <0.9
 - g) Electrical Ballast Type: Electronic
 - h) Electrical Ballast Operating Frequency: 30 kHz- 50kHz
 - i) Cabinet Housing Material: Sheet Steel with Electrophoretic Dipcoat Priming and Textured Powder Coating
 - j) Cabinet Safety Standard Rating: IP-54
 - k) Cabinet Cooling Mechanism: Fan cooled 9with filter)
 - l) Treatment Chamber Material: S.S.-316L
 - m) Maximum Operating Pressure: 100 psig
 - n) UV Dosage (uW-sec/cm²) @ EOL: > 20,000
 - o) Make: Alfa, India
 - p) Qty.: 01No.



ANNEXURE – II (A)

Fully Automatic Rinsing, Filling & Capping in Plastic PET bottles for water (45BPM)



This is a mechanical machine with pneumatics for sturdiness, durability and maintenance free design. Certain internal mechanism of the machine, such as Cam, chain, and sprockets and rest frame structure etc. which will be internal & not exposed will be of Mild Steel clad with Stainless Steel-304 sheet & product contact parts will be of Stainless Steel-316. There can be some minor changes & modification in the Technical Specification for the best improvement of the machine, while designing as per your requirement.

- Product: Mineral Water.
- Container: Pet Bottle (Application using Neck holding)
- No of washing nozzles: 8
- No of filling valves: 9
- No of Capping heads: 4
- Filling volume: 200ml – 2000ml.
- Production Capacity: 40 bottles/min of 1000ml.
(The speed will vary depending upon volume to be filled).
- Average Efficiency: 85-90%

- Overall Dimension: Length – 1800mm (Of the machine) (Appx)
(Not added infeed & outfeed conveyor)
Width – 1800mm
Height – 2200mm

- Power: Main Drive motor – 1.0 HP
Air Conveyor Blower – 1.0 HP
Un-loading Conveyor – 1.0 H.P



The Proposal covers:

- 1) Automatic loading. (Air conveyor)
- 2) Automatic Rinsing Unit.
- 3) Automatic Filling Unit.
- 4) Automatic Capping Unit. (Includes Hopper)
- 5) Automatic Unloading (Slat conveyor)_

MACHINE COMPOSED OF:

1. Machine configuration: **8-9-4 (rinsing - filler - capper)** purely mechanical machine for durability.
2. Machine will be made in Stainless Steel- 304 and product contact parts in Stainless Steel-316. The machine base frame will be in Mild Steel.



3. The bottles have to be loaded on the mouth of the Infeed Air conveyor. A blower is fitted on top of the frame of the Air conveyor. The air pushes the bottle further automatically and the bottles enter the Monoblock Rinsing, Filling & Capping machine. Total length of **Infeed Air Conveyor is 8feet**



4. The machine will have **8 washing nozzle** working under positive pump pressure of de-mineralized water. The machine does not include centrifugal pump for de-mineralized water.





5. You would be required to supply water @ 200 Ltr. Per hour & 40 PSI pressure. The bottles from the air conveyor will be taken by the star wheel and gripped by two pair of fingers.
6. The gripping fingers will hold the bottles by neck and necessary guide bars will invert the bottle upside down by 180°. Duly inverted bottles will receive water from the washing nozzles on the rear of the machine. The washing will operate from 90° to 270° rotation of the machine. 0° position is in the front of the operator.



7. The washed bottle will be taken by the star wheel under the filling nozzles. The machine will have **9 filling nozzles**. The bottles will be raised to the filling nozzles by lifting cam. The bottle will be pressed against filling walls and the same will open. If no bottle is there the filling valves will not open. The water under vacuum will be filled into the bottles. Having the Standard Feature of “NO BOTTLE / NOFILL”.
8. As soon as the bottle is full and during rotation of the machine valve will be closed positively and bottle will be lowered and transferred under the capping head. During transfer bottle will pick up the cap from the chute.



9. The bottle will enter the capping turret. The machine will have **4 capping heads**. The cap elevator will sort and deliver the caps to the chute. By adjustable torque chucks, caps will be firmly tightened. Duly capped bottles will be transferred on the discharge conveyor or will be inline for further application or taken to the collecting table for further packing.





10. Having the Standard Feature of “NO FILL / NO CAP”.
11. Complete wraparound shell for rinser - filler - monoblock with Stainless Steel-304 clad, machined platform with precise location for assembled housings. Main drive motor will have variable speed AC drive for easy regulation of machine operating speed.



12. **Out feed slat conveyors 16feet** long each, with Stainless Steel-304 supports. Conveyor gear motor has variable speed AC drive.

AUXILIARIES:-

1. Infeed Air Conveyor – 8Feet
2. Outfeed Slat Chain Conveyor – 16Feet
3. Label Heat Shrink Tunnel
4. Inspection Light – 1No.

Note: Conveyors mentioned are minimum recommended conveyors necessary to run the machine.
Actual conveyor cost will depend on your layout and building drawing.



ANNEXURE-II(B)

TWO STAGE STAINLESS STEEL 20LITER JAR INNER WASHING UNIT



Specifications:

- a) Make: ARE
- b) Material of Construction: S.S.-304
- c) Size: 1200mm(L) X 450mm (W)
- d) Motor: Two nos. of 0.5HP
- e) Washing Stages: Two (Hot Water & Normal RO Water)
- f) RO Tank Cap: 100Ltr
- g) Type Of washing: Inner
- h) Electric Heating Coil: 1.5KW
- i) Control: Electric Panel
- j) Qty: One No.



ANNEXURE – III

INKJET BATCH CODING MACHINE



Purpose: For automatic registered printing on labels, pouches, cartons tins, boxes, bottles (curvature) etc.

Display Type: PLC display.

Size of letter: 10mm width and 25 mm length.

No. of Line: 1 to 3 line information on your LCD screen.

Printing speed: 100 to 400 imp/min.

Make : **DOMINO**

Qty. : 1No.



ANNEXURE – IV

LABORATORY FOR WATER TESTING

List of Water Testing Equipment

1. B.O.D.INCUBATOR (AUTOMATIC)
Inside chamber made of SS, Outside of MS,
Temperature Range: 5°C to 50° C., ($\pm 0.5^\circ\text{C}$)
Temperature Controlled by a Microprocessor
Based Digital Temperature Controller cum Indicator,
Inside Chamber Volume: 4 cubic ft.,
Inside Chamber Size: 450(W) x 450(D) x 605(H) mm., ---- 1 Nos.
2. MICROSCOPE (MONOCULAR),
Complete with wide field eyepiece 10x, achromatic
Objectives 10x, 40x & 100x and all other standard accessories, ---- 1 No.
3. WATER BATH, (RECTANGLE)
Inside Chamber made of SS, Outside of MS,
Size: 300 (L) x 250 (B) x 100 (H) mm.
With 6 Holes of 75 mm. dia. And eccentric rings, ---- 1 No.
4. SINGLE PAN ELECTRICAL BALANCE,
Cap.: 200 gms., Acc.: 0.1 mg., ---- 1 No.
5. HOT PLATE,
Controlled with energy regulator, ---- 1 No.
6. HEATING MANTLE,
Cap.: 2 Ltr., ---- 1 No.
7. MAGNETIC STIRRER,
WITHHOT PLATE, Cap: 2Ltrs., ---- 1 No.
8. WATER STILL,
Cap.: 3-4 Ltr/hr., ---- 1 No.
9. DIGITAL pH METER,
Complete with all standard accessories, ---- 1 No.
10. DIGITAL TDS METER,
Complete with all standard accessories, ---- 1 No.
11. STERILITY APPARATUS,
Made of S.S., ---- 1 No.
12. GAS STRIPPING APPARATUS,
As per IS, ---- 1 No.
13. COLONY COUNTER,
Digital Electronic with Pen Counter ---- 1 No.
14. DIGITAL TURBIDITY METER,
Range: 0–200 NTU/JTU, ---- 1 No.



List Of Chemical & Media:-

1.	1-10 Phenanthroline
2.	Acetic acid glacial
3.	Aluminium Potassium Sulphate
4.	Ammonia Solution
5.	Ammonium Acetate
6.	Ammonium Carbonate
7.	Ammonium Chloride
8.	Ammonium Dichromate
9.	Ammonium Ferrous Sulphate
10.	Amyl Alcohol (ISO)
11.	Antimony (Metal) Powder LR
12.	Asparazine Proline broth (<i>Pseudomonas aeruginosa</i>)
13.	Bromo phenol purple
14.	Barium Chloride
15.	Barium Hydroxide
16.	Boric Acid
17.	Bromocerasol Green
18.	Buffer Tablets P ^H – 4.0
19.	Buffer Tablets P ^H - 7.0
20.	Buffer Tablets P ^H - 9.2
21.	Cablatous (II) Chloride
22.	Calcium Carbonate
23.	Calcium Chloride
24.	Calcium Hydroxide
25.	Charcoal (Activated)
26.	Chloroform AR
27.	Chloromphenicol Yeast Extract Dextrose Agar (yeast & mold)
28.	Chromotropic acid
29.	Citric acid
30.	Cobaltus Chloride
31.	Copper (Metal) powder
32.	Copper Sulphate
33.	Cupric Sulphate
34.	Cyclohexanone
35.	Di ethyl ether
36.	Di iso propyl ether
37.	Diammonium Hydrogen Orthophosphate
38.	Differential Reinforced chlostrial Broth
39.	Di-Potassium Hydrogen Orthophosphate
40.	Di 2 Ethyl-hexyl Sodium sulphosuccinate
41.	Dodecyl benzene sulphonic acid
42.	E.D.T.A
43.	EMB Agar (<i>E.coli</i>)
44.	Erichome Black – T
45.	Eriochrom Cyanine-R
46.	Ethanol
47.	Ethyl Acetate

48.	Ethylene glycol
49.	Ferric chloride
50.	Ferric citrate LR
51.	Ferrous Sulphate
52.	Formaldehyde
53.	Gelatin Powder
54.	Glycerol Purified LR
55.	Hexamine
56.	Hydrazine Sulphate
57.	Hydrochloric acid
58.	Hydrogen peroxide LR
59.	Hydroxylamine Hydrochloride
60.	Iodine
61.	ISO Amyl Alcohol
62.	ISO Propyl Alcohol
63.	Kovac's Reagent
64.	L-Ascorbic Acid
65.	Mac Conkey Agar (E.coli)
66.	Mac Conkey Broth
67.	Magnesium Chloride
68.	Manganese Sulphate
69.	Methanol
70.	Methyl Orange
71.	Methyl Red
72.	Methylene blue
73.	Murexide LR
74.	N. N dimethyl P- Phenylene Diamineoxalate
75.	N.E.D.
76.	Neocuprione
77.	Nitric Acid
78.	Nutrient Agar
79.	Nutrient Broth
80.	Ortho-Phosphoric Acid LR
81.	O-Toludine
82.	Paraffin wax
83.	Pattern & Reader's
84.	pH- Indicator Solution
85.	Phenolphthalein
86.	Plate count Agar (A M C)
87.	Peptone Water
88.	Potassium Bromate
89.	Potassium Bromide
90.	Potassium chloride
91.	Potassium Chloroplatinate
92.	Potassium Chromate
93.	Potassium cyanide
94.	Potassium dichromate
95.	Potassium Dihydrogen Orthophosphate
96.	Potassium Hydrogen Sulphate
97.	Potassium Iodate
98.	Potassium Iodide AR

99.	Potassium Nitrate
100.	Potassium Metaperiodate
101.	Potassium Permanganate
102.	Potassium Sulphate
103.	Pseudomonas Isolation Agar
104.	Pure zinc
105.	Silica gel
106.	Silver Nitrate
107.	Sodium Acetate
108.	Sodium Ascorbate LR
109.	Sodium Carbonate
110.	Sodium Chloride
111.	Sodium Hydrogen Carbonate
112.	Sodium Hydroxide
113.	Sodium Hypochlorite
114.	Sodium Nitrite
115.	Sodium oxalate Purifid
116.	Sodium Peroxide
117.	Sodium Arsenite
118.	Sodium Sulphate
119.	Sodium Sulphite anhydrous
120.	Sodium Thiosulphate
121.	Starch
122.	Sulfurous acid
123.	Sulphanilamide
124.	Sulphuric acid
125.	Sodium Sulphide
126.	Tergitol 7 Agar (E.coli)
127.	Tri-Chloro Trifluoroethane LR
128.	Triethanol amine
129.	Tri-Sodium Citrate
130.	Tryptane Broth
131.	Tryptane soya Agar
132.	Triple Sugar Iron Agar
133.	Urea
134.	Violet Red Bile Agar (Coliform.)
135.	Zinc acetate
136.	Zinc Sulphate
137.	Zincon

LIST OF GLASSWARES:-

S.No	Name of Glasswares	Quantity	No. (Piece)
1	Beaker	1 Ltr.	2
		500 ml	4
		250 ml	4
		100 ml	4
		50 ml	4
2	Reagent Bottle	1 Ltr.	6
		500 ml	24

		250 ml	12
		125 ml	12
		500 ml Amber	6
		60 ml	10
3	Wide Mouth Bottle	1000 ml	6
		500 ml	5
4	Conical Flask	1000 ml	1
		500 ml	2
		250 ml	6
		100 ml	5
		50 ml	4
5	Vol. Flask	1 Ltr.	1
		500 ml	2
		250 ml	6
		100 ml	4
		50 ml	2
		10 ml	8
6	Measuring Cyllinder	1 Ltr.	1
		500ml	1
		250 ml	2
		100 ml	2
		50 ml	2
		10 ml	2
7	Sep. Funnel	1 Ltr.	1
		500 ml	2
		250 ml	4
		125 ml	2
8	Funnels	4" (inch)	2
		2" (inch)	4
9	Burette	50 ml	3
		25 ml	2
		10 ml	1
10	Nessler cylinder	100 ml	06
		50 ml	06
11	Test Tube	15 mm	48
12	Gooch crucible	30 ml	1
13	Gooch crucible	30 ml	1
14	Bulb Pipette	100 ml	1
		20 ml	1
		10 ml	1
15	Pipette	10 ml	2
		5 ml	2
		2 ml	2
		1 ml	2
16	Silica Crusible	50 ml	1
		30 ml	2
17	Petri Dish	4" (inch)	25
18	Desicator	150 mm	1
19	Kipps Apparatus	500 ml	1
20	Duram Tube		100



ANNEXURE – V

PET BLOWING MACHINE AUTO DROP WITH COMPLETE AUXILLIARIES



Technical Specifications:

1. Type	:	Semi Automatic Vertical top
2. Blow	:	Top
3. Material	:	PET Preform
4. Weight of Material	:	9 to 58 gm.
*5. Blowing capacity	:	100 ml – 2000 ml
6. Produce Rate	:	1200 BPH at 1000 ml
7. Control system Processing system	:	Electronically controlled with micro-
8. Mould Arrangement	:	Vertical Arrangement with stationary & shuttle movement
9. Blowing Head	:	2 Nos.
10. Mould	:	2 Nos.
11. Blowing time	:	1.2 Seconds at 1000 ml
12. Cycle time	:	4 Seconds



- 13. Total cycles time : 5 Seconds
- 14. Size of the m/c : 2.5 ft (W) X 4.5 ft (L) X 6 ft (H)
- 15. Electronic regent : 15amp (230 /220v) 15Hz
- 16. Quantity : One No.

HEATER SPECIFICATION:-

- 1. Quantity : One Nos.
- 2. Type : Rotary Infrared Heating
- 3. Prestart : 30 minute.
- 4. Voltage of lamp : 2 KW
- 5. No. of lamps : 8 Nos.
- 6. RPM of perform during heating : 100 RPM

AUXILLIARIES FOR BLOWING MACHINE:-

AIR- COMPRESSOR:



- STAGE : Two
- CYLINDER : Three
- CFM** : **52**
- PISTON DISPLACEMENT : 54.3 (1535 lpm)
- MAX. WORKINGPRESSURE : 35 Kg/ cm²
- MOTOR : **20 HP**, AC 440V, 3 Phase, 50 Hz- One No.
- TANKCAPACITY : 300 Lts.
- QTY : 01Nos.



WATER CHILLER:



Capacity: 2TR

Qty.: 01Nos.

REFRIGERATOR AIR DRYER:



Specification: 60C.F.M. / 40 Bar

Qty.: 01Nos.

AIR FILTER:

Qty.: One set

MOISTURE SEPARATOR:

Qty.: Two nos.

OTHER ACCESSORIES:

- (a) Pressure Gauge
- (b) Safety valve
- (c) Starter
- (d) Automatic Pressure Switch
- (e) Non- Return valve
- (f) Belt Guard
- (g) Air cooled after cooler
- (h) Moisture Separator

ANNEXURE – VI**PRICE SCHEDULE - MINERAL WATER PROCESSING & PACKAGING LINE**

S. No.	DESCRIPTION	QTY.	RATE (Indian Rs.)	AMOUNT (Indian Rs.)
1.	Fully Stainless Steel Automatic R.O. Water Plant With Complete Accessories Capacity: 3,000 lts/hr as stated in Annexure-I.	1Set	3,85,000.00	3,85,000.00
2.	Ozonator with SS316 Venturi Cap: 12GM/HR as stated in Annexure-I.	1Set	1,15,000.00	1,15,000.00
3.	U.V. Treatment System Cap: 3000LPH as stated in Annexure-I.	1Set	35,000.00	35,000.00
4.	S.S.-316 Ultra Fine filtration system as stated in Annexure-I.	1Set	25,000.00	25,000.00
5.	CIP System for RO membrane cleaning and flushing as stated in Annexure-I.	1Set	45,000.00	45,000.00
6.	S.S.-304 Storage Water Tank 3000 liters as stated in Annexure-I.	1Set	85,000.00	85,000.00
7.	Stainless Steel Online Transfer Pump as stated in Annexure-I.	1No.	25,000.00	25,000.00
8.	45BPM Fully A/M Monobloc Rotary Rinser, Filler, Capper Machine With Complete Accessories Suitable for PET bottle from 200MI to 2000MI as stated in Annexure-II(A).	1Set	8,90,000.00	8,90,000.00
8.a	Heat Shrink Tunnel for Labelling as stated in Annexure-II(A).	1Set	45,000.00	45,000.00
8.b	Auxiliaries- Infeed Air Conveyor 8feet, Outfeed Slat Conveyor 16feet, Inspection Light , Collection Table as stated in Annexure-II(A).	1Set	2,40,000.00	2,40,000.00
9.	Inkjet Batch Coding Machine as stated in Annexure-III.	1Set	1,95,000.00	1,95,000.00



S. No.	DESCRIPTION	QTY.	RATE (Indian Rs.)	AMOUNT (Indian Rs.)
10.	Water Testing Lab as stated in Annexure-IV.	1Set	2,95,000.00	2,95,000.00
11.	PET Blowing Machine Auto drop Cap: 1200BPH With Preform IR Heater, Air Compressors, Air Dryer, Cooling Tower & Moisture separator With Complete Accessories as stated in Annexure-V.	1Set	8,55,000.00	8,55,000.00
12.	Mould	1No	40,000.00	40,000.00
13.	Stainless Steel-304 Interconnecting pipelines & fittings of Entire plant.	1Lott	1,25,000.00	1,25,000.00
Total Project Basic Cost INR:				34,00,000.00
ADDITIONAL MACHINE:				
14.	20Liter Jar Washing & Filling System as stated in Annexure-II(B).	1Set	65,000.00	65,000.00
Grand Total Project Basic Cost INR:				34,65,000.00

Total Project Cost: Rupees Thirty Four Lacs Ninety Five Thousand Only.

Please RTGS/NEFT payment in favor of:-

SYNERGY ENGINEERS & PROJECTS

Bank Name: KOTAK MAHINDRA BANK

A/C NO.: 6112024620

BRANCH: Preet Vihar, New Delhi

IFSC/RTGS CODE: KKBK0004622

ANNEXURE - VII

SCHEDULE OF EXCLUSIONS & TERMINATIONS

SCHEDULE OF EXCLUSIONS

1. All civil works, such as plant building, shed, foundation of equipments, bolts, pipe Supports, supporting structures, platforms and mass concreting.
2. Construction of drain sump and drain channels and any special lining.
3. Plant area, building illumination, ventilation and earthing.
4. Supply of power to motors and water.
5. Raw water storage tank and pump, product water storage tank and pump.
6. All pipe work beyond our termination Points.
7. Layout of the equipments, piping, cabling and erection has been considered as per our standard layout design. All piping, cabling, erection etc. required, as per client's specific requirement subsequent to order finalization shall be at extra cost.
8. Design codes standards, features, specifications and supply of all items, quantity, make etc. shall be as per our standard or as per the scope & specifications finalized at the time of order. Any changes in design codes, standards, features, specifications, quantity, makes, addition of items other than specified in the order shall be extra cost which shall be finalized before the same is supplied.
9. Transit insurance shall be client's responsibility. Insurance has been arranged by us on behalf of the client for their convenience.
10. All equipments, work and services not specifically mentioned as forming part of our offer.
11. Erection, commissioning and handling over of the plant shall be considered to have been completed as described below:

The plant shall be considered once the equipments, media, interconnecting piping, Instruments and accessories essential to the plant operation are in place. Minor job completions, not affecting commissioning, shall not be the reason to consider it not completed.

The plant shall be considered as commissioned on attaining the required water output and quality. Minor corrections, modifications like leakages; component rectification etc. not affecting commissioning shall be completed later.

The plant shall be considered as handed over to client once the commissioning runs/ cycles have been completed as referred above.



TERMINATION POINTS

1. Inlet of Multigrade Sand Filter (MSF) of Reverse Osmosis Plant.
2. Permeate outlet of Reverse Osmosis Plant.
3. Reject of Reverse Osmosis Plant.
4. Overflow, backwash, drain of all vessels of R.O. Plant.
5. Inlet of all measuring tanks.
6. Inlet of Water treatment plant.
7. Outlet of Water treatment plant.
8. Power Terminals to control panel.

CIVIL WORK REQUIREMENT

Being a set- up of food industry, the plant and machinery require utmost hygienic conditions :

Water Treatment Plant : Proper Shed with dust proof atmosphere.

Flooring & Ceiling : Color should be white.
The floor should be properly tiled.

* There is no exhaust and is completely pollution free plant.

UTILITIES: We would require:

CLIENT SCOPE:-

- Bore well 5000LPH.
- Raw water storage tank - 10KL.
- Argon Gas, Helper & labour.
- Power: 35KW (Approx.)**
- Plant Area Req.: 2000 Sq. Ft.**
- 3 Phase Electrical points.
- Building as per BIS norm.
- Waste water disposal/ Rain water harvesting.



ANNEXURE – VIII

PRICE BASIS:

The quotation is subjection on Ex-Factory of India.

The prices of machines/ plant are net and

- Exclusive of Packing & forwarding.
- Exclusive of freight.

TAXES & DUTIES:

As per GST extra

FREIGHT & INSURANCE:

Extra at actual.

ERECTION & COMMISSIONING CHARGES:

All the To & Fro Taxi/train Traveling & all the lodging, fooding & boarding charges of our engineers shall be borne by the client.

TERMS OF PAYMENT:

50% advance along with the PO.

45% Against PI prior to dispatch.

05% After installation.

TRAINING:

Training at Site in Factory. Training duration minimum 7 working days.

All the expenses during the training period shall be paid by the client.

DELIVERY:

We shall dispatch the Plant within 8-10 weeks from the date of receipt of Purchase Order and advance as per terms.

VALIDITY:

This offer is valid for 1 month.

PRICE ESCALATION

It is specifically agreed by and between the PARTIES that there shall not be any price escalation under normal circumstances. However if there is any delay in providing infrastructure or in making payment from the buyer the seller will claim price escalation as per the prices prevailing at the time of supply of those items. After release of order along with requisite advance.

GUARANTEE/ WARRANTY:

The equipments supplied are guaranteed for a period of one year from the date of commissioning.

Equipment Guarantee is valid against defective workmanship and/or poor performance of the system only. Our liability is limited to repair or replace the same and subject to any wear & tear or supply of consumables and spares due to regular operation of the system.



We agree to replace such parts, which may prove defective and the which do not caused fall from neglect or misuse or faulty operation on. Our decision whether to replace such parts shall be final. The defective parts must be sent to us, duly insured and freight prepaid for examination and our agreement that they are defective. The return freight and insurance charge on such repaired or replaced parts will be borne by the customer. No charges will be made by us for work involved in the repair or replacement of defective parts during the warranty period in the case of installations within the Municipal limits of any city where we have our own branch or service center. Should however, the service of our qualified men be required outside these limits, our standard charges for such service will apply.

This Warranty

- (a) Does not extend to consequential damages or loss.
- (b) Is null and void if repairs and modifications are carried out without approval in writing.
- (c) Does not cover scaling or deterioration of the equipment/ plant, water passages and connected piping system due to circulation of hard or contaminated water.
- (d) Does not cover parts subject to normal wear and tear, such as V-belts, air filters and rubber parts, shaft seals etc.
- (e) Does not cover deterioration or failure of equipment, controls and piping due to corrosive atmosphere.
- (f) Does not cover supply of consumable items if any.

Change of specification & design:

All the machine incorporates latest technology still under development stage globally. Strategic components are not available ex-shelf and are often made to order in house. We reserve the right to change/modify the specifications necessary during the course of design and development for betterment/ improvements; without prior notice. All the photographs/pictures shown are indicative only. Any Particular extra features desired by buyer and different from the order specifications can be in cooperated at extra cost only.

FORCE MAJURE

The performance as per supplier's offer is subject to force majeure. By it means that supplier is not liable for non performance for reasons beyond suppliers control such as war, invasion, civil disobedience, Govt. orders or restrictions, strikes, lockouts, riots or natural calamities such as fire, earthquakes, floods,. This is applicable to both side and in such unforeseen situation both sides will reassess the ground realities and arrive at mutually acceptable solution.

JURISDICTION

Any dispute between buyer and supplier are deemed to be entered in to at New Delhi and are therefore, subject to the jurisdiction of court at New Delhi, India only.

ARBITRATION:

Any disputes or differences which may at any time hereafter arise between the parties to this offer touching some and / or all the clause/s of this offer whether as to construction, interpretation or otherwise of the clause /s of the offer shall be referred to a single arbitrator, in case the parties can agree upon one, otherwise to two arbitrators (one to be appointed by each party to the difference) or to their umpire in accordance with and subject to the provisions of the Arbitration Act, 1940 or any other re-enactment or statutory modifications thereof for the time being in force. Any party aggrieved with the decision of the arbitrator/s and / or their umpire shall refer the matter to the court at New Delhi, India only.



CANCELLATION:

We shall be entitled to Suspend/cancel the work in account of:

- (1) Customer's instructions/lack of instructions
- (2) Non-payment of our bills

If we are required by the customer to delay bringing the equipment to site, or if for any reason beyond our control we cannot bring the equipment to site, or commence or continue erection then we may at our option, divert our workmen or tools and machines, or both to other uses and customer shall in such cases, bear the increase in cost of material or equipment, as well as other expenses such as transportation, insurance etc.

Order received and acknowledged by supplier shall not be subject to cancellation, either wholly or partly for any reason whatsoever without adequately compensating supplier, in any case such Compensation being not less than 30% of the value of the contract price.

In any case due to whatsoever reason if the P.O is cancelled the advance paid will be forfeited and no claims will be entertained.

RIGHT TO SUB CONTRACT

Supplier reserves the right to sub-contract either partly or wholly any part of the order / contract without notice to the buyer prior intimation to the buyer, Supplier shall however ensure the quality of performance as envisaged in the warranty clause.

GENERAL

Any condition or other matters relating to the said order not expressly stipulated in the offer will be a matter of mutual discussion between the parties followed by written confirmation before implementing the changes or additions.

The imported equipments if any incorporated in the Scope of Supply will be excluded from this terms and conditions and respective manufacturer terms and conditions are to be followed.

STATUARY VARIATION:

Any change in Govt. duties, levies, taxes or policies having direct effect on our above quoted prices will be at client's account.

Kindly sign the duplicate as your acceptance of our offer and terms.

We hope you will find the above in order and we look forward to receive your valuable order.

for Synergy Engineers And Projects

For Karom Enterprises

Authorized Signatory

Authorized Signatory