THERMOTECH SYSTEMS LIMITED

An ISO 9001, 14001 & 45001 Company

PROPOSAL DESCRIPTION	
System	Indirect Water bath Heater
Capacity	1060 KW
Model	IWBH-1000
Fuel	Natural Gas (N.Gas)
Industry	Oil & Gas
Proposal No.	TSL/2122/Q21486 Rev. 00
Proposal Date	24-03-2022

CUSTOMER DETAILS	
Company Name	HAL Offshore Limited
Location	Mumbai
Enquiry Ref. No.	Enquiry Mail Date: 12th Mar 2022
End User	OIL INDIA LIMITED
Contact Person & Designation	Mr. Jayraj Juikar Project Engineer
Phone **Email**	+ (91) 8805702920 jayraj@haloffshore.com

SUPPLIER DETAILS	
Company Name	Thermotech Systems Limited
Correspondence Details	Plot No. 2607-08, Phase-4, GIDC Vatva, Ahmedabad – 382 445, Gujarat, India.
Phone **Email**	+91-7284912930 bdm@thermotechsystems.com
Website	www.thermotechsystems.com
Corporate Video	YouTube (Ctrl + Click to follow link)




THINK OF FUEL ECONOMY: THINK OF THERMOTECH

Dear Customer,

We, at Thermotech Systems Ltd., are pleased to submit our Techno-commercial Proposal of Indirect Water Bath Heater System in aforementioned project.

After understanding the technical requirements of the project, we propose 5+1 Nos. x Water Bath Heater of 0.9 Million Kcal/hr. capacity suitable for Natural Gas as a fuel.

Based on the enquiry documents provided, we have enclosed our detailed Techno-Commercial Proposal for design, procurement, manufacturing, Inspection, testing & supply of Bath Heater (IWBH) as per scope mentioned in proposal.

We hope that you will find our offer in line with your requirements. In case you need any additional information/support, we shall be pleased to furnish the same.

We look forward to have a further discussion with you on this subject.

Thanking you & assuring you our best services at all times,

Yours faithfully,
THERMOTECH SYSTEMS LTD.

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REVISION HISTORY

Rev. No.	Date	Changes	Page No.	Requested By

1. COMPANY BRIEF

- **THERMOTECH SYSTEMS LIMITED (TSL)** is an internationally renowned Eco-Energy company hailing from India
- Began its operation in 1988 & has established its rock solid foothold in fabricating cutting edge industrial process heating equipment & systems for wide scope of industries.
- Served more than ***3,200 industries in India & Abroad*** & numbers are increasing every day.
- An ***ISO 9001 – 2015, 45001 – 2018, 14001 – 2015*** company with quality, delivery & performance commitment.
- Manufacturing space of 4,800 Sq. Yard + 2,400 Sq. Yard with 20 Mtrs. Height shed
- Manufacturing Infrastructure of delivering 300 Tons per Month
- 280 + Strong Team Members
- State of Art Manufacturing with major TPI clearance like BVIL, IRS, SGS, TPL, TUV, L&T, TPL etc.
- Well experienced team backed by Engineering Consultants for smooth project execution

MAJOR CLIENTELE

SHELL, PETROFAC, ALKYL AMINES, IOCL, CAIRN, OIL, L&T, RELIANCE, FORBES MARSHALL, DNO MIDDLE EAST, BASF, IFFCO, TOYO, INEOS, ADANI, THRUMAILAI CHEMICALS, GODREJ GROUP, VVF, HALEYS, RAYMONDS, RECKITT BENKISER, BALAJI WAFFERS, UFLEX LTD., FINLAYS, EMAMI, MULTITEX & MANY MORE…

MAJOR PRODUCT RANGE

1. **THERMIC FLUID HEATER (DIN 4754)**
2. **FIRED HEATER (API 560)**
3. **HOT WATER GENERATOR**
4. **HOT AIR GENERATOR**
5. **WATER BATH HEATER (API 12K)**

FUEL:

SOLID (COAL, BIO-MASS, AGRO WASTE etc.)

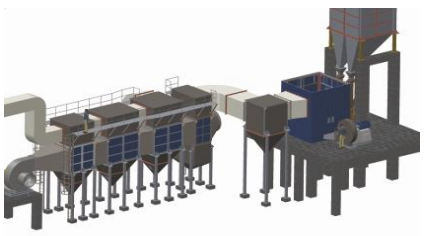
LIQUID (FO, LDO, HAS, CRUDE OIL etc.)

GAS (LPG, FUEL GAS, H_2, OFF-GAS etc.)

CAPACITY: Up to 50 MM Kcal/hr.







2. TECHNICAL SPECIFICATION

DETAILED TECHNICAL SPECIFICATION: WATER BATH HEATER 1.060 MW Each

Water Bath Heater Model	WBH – 1000
System Configuration	**Horizontal**
Heating Requirement	1060 KW
WBH Efficiency, Calculated	65 % (LHV)
Water Temperature (Operating/Design)	75 °C / 100 °C
Shell Design	Atmospheric
Required Stack Diameter x Stack Height	ø 0.4 Mtr & 6 Mtrs. Height (Client to confirm)
Total Production Fluid Quantity to be Heated	0.3 MMSCMD X 2 Inlet for each IWBH
1st Coil Inlet of Well fluid	
Inlet Pressure	200 Kg/cm2(Operating)
Design Pressure	350 kg/cm2
Inlet Temp.	10 Deg C
Outlet Temp.	65 Deg C
Inlet Header Nozzle connection size	4" #2500
Choke Valve Assembly	
Inlet Pressure	200 kg/cm^2
Outlet Pressure	25 kg/cm^2
2nd Coil Inlet of well fluid	
Inlet Pressure	25 kg/cm2
Design Pressure	50 kg/cm2
Inlet Temp.	10 Deg C
Outlet Temp.	15 Deg C
Pressure Drop Across 1st & 2nd Coils	0.8 Bar (Maximum)
Fire Tube	

Flue gas O/P temp in stack	452 Deg C
Fuel Consumption @ 11,000 kcal/kg GCV of N. Gas	135 kg/hr
Burner Installed Capacity	1550 MW
Burner Turn down Ratio	1 : 2
Water Fill/Drain Nozzle connection size	2" # 150
Water Quality required	Soft Water / DM Water
Connected Load	~7.5 KW
Electrical Supply	415/3/50
System Elevation	<200 ft. msl
Location of complete system	Under Light Shed in open area
Area of Classification of WBH System	Hazardous Zone 2 IIA/IIB, T3

3. SCOPE OF SUPPLY

TYPICAL LAYOUT OF IWBH

NOTE:

Above representation of Indirect Water Bath Heater System is only for understanding of customer. It may be possible that all parts shown may not be included in the scope of Thermotech Systems Ltd. (TSL). Please refer detailed scope of supply and scope matrix provide along with proposal for better understanding of scope of supply.

MANDATORY SCOPE OF SUPPLY FOR PACKAGE

No.	EQUIPMENT DESCRIPTION	QTY.
1.	**MAIN WATER BATH HEATER (WBH) SHELL** Fabricated out of M.S. plate IS 2062 to house Heat Exchanger Pipe assembly & Combustion shell. The Shell is insulated by Rockwool & cladded with Aluminum sheet. The heater shell has removable man holes flanged and bolted on rear side to provide access to the heater tubes for inspection and maintenance. The Front cover plate has toughened glass for viewing of the burner flame	06 Set
2.	**HEAT EXCHANGER COIL** Consisting of Serpentine Pipe Assembly interconnected as per flow of process fluid. The Heat Exchanger Coil is Hydro tested at our works for 250 Barg pressure. The Inlet header of 1st coil is connected with 4" #2500 WNRF header and the outlet header of 4" #2500 WNRF flange. The Inlet header of 2nd coil is connected with 6" #300 WNRF header and the outlet header of 6" #300 WNRF flange. The Heat Exchanger Assembly is removable from WBH assembly	06 Set
3.	**FORCED DRAFT (FD) FAN ASSEMBLY:** FD Fan assembly for HSD , comprising of: • FD Fan with coupling, drive motor, direct drive assembly, mounted on base frame. • FD Fan MOC: M.S. Plates (IS 2062 Gr. A/B) • Motor: TEFC Induction IE2 Efficiency: 2800 rpm	06 Set
4.	**COMBUSTION SHELL** 1st Pass & 2nd Pass, fabricated of C.S. Plate : SA 516 Gr 70. Burner is fired in this combustion shell, which is inserted into Main WBH Shell. Flue Gas from 1st Pass enters to 2nd Pass from rear side into this pipe, which is further connected to Stack with required safeties.	06 Set

No.	EQUIPMENT DESCRIPTION	QTY.
5.	**FLUE GAS STACK (CHIMNEY)** Fabricated of C.S. Plate : SA 516 Gr 70. Stack is provided with control damper to adjust back pressure if required. Generally it is kept Lock open. Single Stack per Heater with Size of 0.4 Mtr. Dia X 6 Mtr. Height. Heater Mounted stack with its support structure on IWBH skid	06 Set

6.	**BURNER :**
	Imported Forced Draft, ON-OFF Setting type setting burner with separate supplies, fully automatic, with Instruments & Electricals are ATEX Certified, made up of :
	• Combustion head, that can be set on the basis of required output, fitted with:
	  ○ Stainless steel end cone, resistant to corrosion and high temperatures
	  ○ Ignition electrodes
	  ○ Fuel Nozzle with its valve & piping
	  ○ flame stability disk
	• Air damper for air setting controlled by servomotor (ATEX)
	• Low Pressure Switch for Air (ATEX)
	• For HSD Fuel
	  ○ Fuel Control Valve (ATEX)
	  ○ Valve Group with Safety Oil Valve
	  ○ High Pressure Switch
	• UV Cell for flame detection / Flame Scanner (ATEX)
	• Pressure Gauge
	• Ignition Transformer
	• Burner Programmer (BMS)
	• IP 41 protection level.
	• Fabric Expansion Bellow to avoid Vibration on Burner.
	Note: Burner to be placed under Light Shed / Canopy
		06 Set

7.	**GAS HANDLING SKID** • 1 Nos. of fuel gas isolation valve. • 1 Nos. of fuel gas filter with exchangeable nonwoven insert Main Gas Line (Size 2”) • 1 Nos. of fuel gas isolation valve. • 1 Nos. Flow Transmitter (Turbine Type) • 1 Nos. Pressure reducing valve assembly with safety shut-off valve • 1 Nos. of Pressure Indicator • 1 Nos. Safety valve	06 Set

No.	EQUIPMENT DESCRIPTION	QTY.
	• Two electric actuated gas shutoff valve (EExd type: ATEX certified) • Inlet & Outlet gas pressure gauge. • Automatic vent valve • Internal piping of heavy pipes with matching flanges **Pilot Gas Line (Size 1")** ✓ 1 Nos. of fuel gas isolation valve. ✓ 1 Nos. Pressure reducing valve assembly with safety shut-off valve ✓ One electric actuated gas shutoff valve (EExd type: ATEX certified) ✓ Inlet & Outlet gas pressure gauge. ✓ Gas pressure switches for leak detection and high/low gas pressure. (Ex'd' type : ATEX certified). ✓ Internal piping of heavy pipes with matching flanges **Note: inlet Pressure of fuel gas should not exceed 6 barg, as the PRV is designed for 6 barg to 200 mbarg**	
8.	**CHOKE VALVE WITH ASSEMBLY:** Choke Valve assembly at outlet of 1st Coil for reducing the pressure of NAG well Gas upto 25 kg/cm^2	12 Set
9.	**MECHANICAL SAFETY VALVE:** Safety valve at inlet of 2nd coil	12 Set
10.	**COMMON PLC + BMS PANEL with HMI**: COMMON PLC Control Panel (NON Redundant, Non SIL) Dust protected, powder coated, Pre-wired, PLC + BMS Panel supplied with necessary configuration & Programming to Control IWBH Operations. The Panel consist of: • Enclosure with CPU, Communication module & required I/O's as per system configuration. 15% spare capacity from designed I/O's. • HMI 12" for display & operation of all values, trends, data logger, etc. • PLC shall be of IP55 Protection (Without Purging) suitable for Safe Area operation. Panel to be kept in Air-conditioned room by Client. • All control logics are displayed on desktop as mentioned below are designed with components to continuously monitor and/or control: Hot Water fluid temperature, Process side fluid temperature, pressure, and flue gas temperature, burner firing, etc. The control panel includes the following: ✓ Process side Supply Temperature Indicator cum Controller	01 Set

No.	EQUIPMENT DESCRIPTION	QTY.
	✓ Process side Return Temperature Indicator cum Controller ✓ Flue gas temperature high limit switch ✓ Process side differential pressure low indicator ✓ Process side flow low indicator ✓ Expansion Tank Level Transmitter indicator ✓ Burner Status indicator ✓ Main disconnect switch ✓ Burner Sequence Controller (BMS) with complete logic interlocks ✓ Burner On/Off Switch ✓ Burner Interlock with complete package equipments as applicable ✓ Motor starters - blower motor, etc ✓ Audio & visual Alarm for all safeties & controls with fault indicated on panel ✓ Numbered terminal strip for easy connection of remote field devices ✓ All instrument cables within the package upto PLC panel considered in TSL scope of supply (Max 100 mtr/Heater) Note: PLC Panel to be placed in Safe Area under closed room by client • Panel will have standard color coding of cables & proper numbering ferrule. • PLC will be having Ethernet Switch/Port for onward communication with Client's DCS.	
11.	**COMMON ~~ELECTRICAL~~ & INSTRUMENT CABLING OF IWBH SYSTEM:** **Loose Supply** of ~~Electrical &~~ Instrument Cabling along with its accessories from & up to our Control Panel, ~~motors &~~ instruments etc. within **heater room** only. Panel should be installed within 20 Mtrs. Radius of Heater Room. • ~~Power Cable & its Accessories from MCC Panel to IWBH all Motors & Switches.~~ • Instrumentation & Control Cables and its accessories from PLC Panel to all Instruments of IWBH. • ~~All power cables shall be of copper / aluminum as per size requirement~~. • All Instrumentation cables to be screened and be Cu multi-strand. • Cable Trays shall be of GI – Perforated type • All Motors shall have local Push Buttons. • All Instrument/Control Cables from MCC to PLC in Purchaser's Scope. • Main cable from Client's mains to IWBH MCC Panel shall be in Purchaser's scope.	01 Lot
12.	**FOUNDATION BOLTS :** Design & supply of Foundation Bolts for all applicable package items supplied by TSL as defined below. • Heater • Blower	06 Set

No.	EQUIPMENT DESCRIPTION	QTY.
	• Fuel Gas Skid	
13.	**SUPERVISION OF ERECTION & COMMISSIONING OF COMPLETE IWBH SYSTEM:** Erection & Supervision of Commissioning of 1 Nos. x 0.9 Million Kcal/hr., internal structure, Heater Room Cabling, Ducting, Painting, Panel Erection, Chimney etc. shall be carried out by TSL team at site considering all applicable safeties & statutory requirement of client. Thermotech will furnish complete team with required local structural support, supervisor engineers, labours, etc. All safety standard shall be maintained as per Good Engineering Practice. • Documentation Scope: → Daily / Weekly Work Report • Inclusion: → 8 Hours Working at Site considering break for Lunch & Tea break. → Documentation as mentioned in the policy. → Pneumatic Testing of all Pipeline. → Loading & Unloading of Equipment at Site → Material moving equipment such as Crane, Hydra etc. → Site Fabrication equipment and tools tackles etc. • Exclusions: → Client should give clear levelled ground space for site fabrication & erection activities. → All consumables and utilities required for commissioning such as spares, skilled/unskilled man power, tool and tackles and any utilities like bad material, fuel, water, power etc. shall be supplied by purchaser. → Any skilled/unskilled Labour required for Commissioning. → Civil & Foundation work readiness before erection work commences. → Client to provide adequate space adjoining to IWBH area for material storage and site fabrication activities. → Storage space of fabrication & erection material (For Loose supplied Pipeline). → Incidentals (Meals etc.), Gate-pass, Training required → Utilities required for Site Fabrication such as Compressed Air, Power, Water etc. → Client will take responsibility if material damage/stolen from site once it is unloaded in client warehouse/package area. • Terms & Conditions → Client will be liable to provide necessary provision to Expat for Thermal Screening, Hand Sanitization, Masks (N-95 Type) due to Pandemic conditions of COVID-19. → One working day shall be equal to 8 Man-hours.	01 Lot

INSTRUMENTS LIST PER HEATER (LOOSE SUPPLIED PER HEATER)

No.	DESCRIPTION	QTY.
1.	Temperature Transmitters: Stack outlet Bath Shell for Water Inlet & Outlet of 1st & 2nd Coil respectively Outlet of 2nd Coil Outlet of Choke valve assembly	 1 Nos. 1 No. 4 No. 2 No. 2 No.
2.	Pressure Transmitter Inlet of Fuel Gas Skid Outlet of 2nd coil Outlet of choke valve assembly	 1 No. 2 No. 2 No.
3.	Level Indicator (Shell)	2 No.
4.	Level Transmitter (Shell)	2 No.
5.	Instrument tubing and its accessories for TG, PG, LG, etc.	1 Set

CLIENT SCOPE OF SUPPLY

No.	EQUIPMENT DESCRIPTION	QTY.
1.	**DM Water**	01 Lot
2.	**COMMON ELECTRICAL PANEL (MCC):** Dust protected, powder coated, Pre-wired, Electrical Panel supplied with necessary switch gears for all Motors : • MCC Comprising of Contactors, Overload Relays, Isolation switch, etc. for all Motors. • Ampere and Volt meter – common for complete panel • Main Panel Isolation Switch • On, Off & Trip indicator on Panel for all Motors. Panel shall be of IP42 Type, to be kept in Safe Area by client.	01 Set
3.	**ELECTERICAL CABLE WITH CABLE TRAYS**	01 Set

MANDATORY CLIENT SCOPE OF SUPPLY

No.	DESCRIPTION
1.	Design & Construction of Civil works, Foundation of all equipment etc.
2.	~~Design & Supply of Foundation Bolts of all equipment~~
3.	Shed for housing complete system with roof & side walls
4.	All Pipeline with Valves, Fittings, Insulation, Erection, Testing of DM Water & any other utility Outside Heater Room Battery Limit.
5.	All Structural work for maleup Tank mounting, O&M of Coils etc.
6.	Electric, cabling from field to Panel & Under ground Earthing of all equipment
7.	Control & Instruments cabling from field to Panel
8.	Power Supply to Panels along with proper Earthing
9.	Fuel Oil Handling System up to N.. Gas skid Inlet
10.	All Utilities (Power, Water, Compressed Air, Fuel, Lubricants, etc.) required for assembling, erection, testing & commissioning of IWBH
11.	DM Water Storage Tank & its charging pump
12.	Transportation of equipment from TSL works to Site & it's Safe Unloading
~~13.~~	Erection of all equipment supplied by TSL (Preferred under supervision of TSL)
14.	Commissioning, Operation & Maintenance of complete IWBH
15.	All equipments/items will be loose supply unless specified
16.	Any other equipment / service not mentioned in TSL scope of supply

DOCUMENTATION SCOPE:

No.	DOCUMENTS & DRAWINGS
1.	GA layout of IWBH
2.	Foundation Layout with Load Data
3.	Pipeline & Instrument Drawing (P&ID) & Process Flow Diagram (PFD)
4.	Panel Drawings (GA, Wiring Diagrams, BOM etc.)
5.	Internal Testing Certificates of HE Coil
6.	Material Test Certificates (Pipes, Motor, Instruments – As Applicable)
7.	Operation and Maintenance Manual

PERFORMANCE GUARANTEE CRITERIA:

→ **NAG Well Gas**

- Process O/P Gas of 15 Deg C @ 25 kg/cm2 pressure.

→ **Fuel for combustion**

Fuel	Moisture % (Max.)	Ash % (Max.)	C% (Max.)	H_2% (Max.)	N_2% (Max.)	O_2% (Max.)	S% (Max.)	Temp. (Max.)	NCV
N.GAS	--	--	85.5	11.5	--	--	3	<60 °C	~ 11,000 kcal/kg

→ **Power Supply**

- 415 volts ± 10%, 50 Hz ± 3%, 3 Phase, 4 wire system. In case of voltage fluctuation exceeds the above limits, customer is advised to install a constant voltage transformer (CVT) for protecting electrical components.

4. BATTERY LIMIT

- DM Water
  - → Inlet & Outlet of of shell connection
- Fresh Air
  - → Air Inlet of FD Fan
- Fuel Gas (N. Gas)
  - → Inlet of Fuel Gas skid
- Flue Gas
  - → Outlet of Chimney
- Process Gas
  - → Inlet of Coil 1st coil
  - → Outlet of 2nd coil
- Flue gas
  - → Outlet of Chimney
- Electrical & Instruments
  - → Incoming and outgoing terminals in Electrical & Control panels
  - → All terminal connections in Motors & Instruments

5. MAKES OF MAJOR COMPONENT

NO.	COMPONENT	MAKE
1.	HE Coil Pipes/ Tubes	MSIL / TI / Penner / Goodluck / TATA /Equivalent
2.	Burner	Riello / Elco / Equivalent
3.	Electric Motors	Siemens / BBL / ABB / LHP
4.	Hot Oil Fluid Circulation pump	KSB / Flowserve / Equivalent
5.	Hot Oil Fluid Charging / Makeup Pump	Entees / Roto Fluid / Equivalent
6.	A.C. Variable Drive	ABB / Rockwell / Denfoss / Delta / Equivalent
7.	FD Fan (Direct Drive)	Thermotech Approved Vendor
8.	ID Fan (Belt Driven)	Thermotech Approved Vendor
9.	Safety Relief Valve	Fainger Lesser / Forbes Marshall / Darling Muesco
10.	Choke Valve assembly	Praveen Industries / Equivalent
11.	Temperature Sensor	GIC / Altop / Rays
12.	Pressure/DP Switch	WIKA / Indfoss / Denfoss
13.	Main incomer - SFU	Siemens / Schneider
14.	HRC Fuses	Siemens / Schneider
15.	Indicating lamps	Siemens / Schneider
16.	Selector Switches	Siemens / Schneider/ Salzer
17.	CT Coils	Trio / Equivalent
18.	MCB / MPCB / MCCB	Siemens / Schneider
19.	Relays	Siemens / Schneider
20.	Contactors	Siemens / Schneider
21.	Electric & Control Panel Enclosures	Thermotech Approved Vendor
22.	Programmable Logic Controller (PLC)	Rockwell / Siemens / Honeywell / Schneider / Equivalent
23.	Computer	HP / Dell
24.	Flexible cables	RR / Polycab / Equivalent
25.	Orifice Plates	GIC / Scientific Devices / Flowtech / Equivalent.
26.	All Transmitters (PT, TT, DPT, LT)	ABB / Honeywell / Emerson / Fuji/ Yokogawa
27.	Temperature controllers	Honeywell / Heatcon
28.	Control Valves	Forbes Marshall / Darling Muesco / Equivalent
29.	Gate / Globe : Valves	Thermotech Approved Vendor
30.	Pipe for Heater House Pipeline	Thermotech Approved Vendor
31.	All Gaskets & Fittings	Thermotech Approved Vendor

NOTE:

The above lists of makes are indicative and not compulsory. Optional makes Indicated would be supplied at the consideration/discretion of Thermotech Systems Limited (TSL). Specific make of components can be offered which will have implication on offer price. The list is of all generic items used in various models of Hot Oil Fluid Heating Systems (TFH), and may not be part of quoted system of your project.

6. COMMERCIAL BID

a) PRICE BASIS :

ITEM	DESCRIPTION	QTY	UNIT PRICE (INR)	TOTAL PRICE (INR)
1.	Indirect Water Bath Heater System as per Mandatory Scope of Supply mentioned above for Model No. : IWBH-1000	1 LOT	After Technical and scope confirmation	
	COMPLETE SUPPLY OF LISTED ITEMS			
	IN WORDS :			

b) SUPERVISION OF ERECTION & COMMISSIONING

Site Supervision for Civil Marking, Unloading of TSL supplied equipment, Erection, Testing & Commissioning charges are **NOT** included in above quoted prices. Thermotech will provide a separate quote for site supervision charges upon request.

c) TAXES, FREIGHT & TRANSIT INSURANCE

I. GST: 18% shall be charged extra on above quoted prices.
II. Price Basis: Quoted prices are Ex-Works Thermotech - Ahmedabad Factory basis.
III. Freight : In Purchaser's Scope
IV. Transit Insurance: In Purchaser's Scope.

d) PAYMENT TERMS

I. XX % Advance on Acceptance of Purchase Order.
II. XX % against proforma invoice prior to dispatch.

e) DELIVERY SCHEDULE

XX Staggered Weeks from the date of receipt of purchase order & advance.

f) OFFER VALIDITY

This offer is valid for acceptance for a period of **20 days** from the date of issue.

g) PACKING & FORWARDING

All material shall be loaded on trailer / truck to ensure safe delivery as per our standard packing procedure. In case of client's specific packing procedure to be followed, it shall be done at extra price.

h) OTHER TERMS & CONDITION

Any order arising from this offer will be subject to TSL standard terms and conditions of Sale - See attachment.

7. TERMS & CONDITIONS

1. ORDER CONFORMATION

All orders placed on us directly or through our regional offices will be binding on us only after our Head Office in Ahmedabad has issued an order confirmation.

2. SPECIFICATIONS ETC.

Specifications, designs, dimensions, descriptions, shades of paints etc. are not binding on us in minute details and are subject to reasonable alterations without prior notice.

3. PRICES

All prices are ex-works, Vatva, Ahmedabad / ex-works of our suppliers for the part of the goods to be manufactured at their works and are exclusive of transit insurance, all taxes excise and other duties & levies as applicable at the time of delivery, which shall be charged separately. Freight & octroy if any, shall be borne by the purchaser. The purchaser registered under the Sales Tax Act are advised to send sales tax registration number and date and also concessional tax form along with the purchase order. Otherwise the state/central tax concession will not be considered.

4. MODE OF DELIVERY

All delivery will be ex-works, Vatva, Ahmedabad – our supplier's works. The goods may be dispatched in one or separate lots at our option. If we are required to dispatch the goods on behalf of the purchaser, on freight to pay basis, on the understanding that no liability is attached to us. The freight charges contracted by us on behalf of the purchaser will be treated as negotiated under the purchaser's authority and shall, therefore be final.

5. PACKING AND FORWARDING

Packing wherever necessary will be done by us in accordance with our standard practice or as specified in our proposal.

6. INSPECTION

If necessary, the goods will be offered for visual inspection only at our works, AHMEDABAD. The date of inspection will be intimated by us by 15 days in advance. If inspection is not carried out on the date so advised, we shall be free to dispatch the consignment as per the terms of delivery.

7. WAREHOUSING CLAUSE

If payment is not made within 15 days of date of proforma invoice, we reserve the right to divert the ordered material. We will give a fresh delivery period and price at the time of diversion which will be binding on the purchaser and the contract cannot be rendered void on this account. If the goods cannot be diverted, charge will be made for storage, insurance and interest at the rate of 1% of the invoice value for each week or part thereof commencing 15 days from the date of proforma invoice. Warehousing charge is subject of a maximum of 5%.

8. PAYMENT

(A) **Advances** paid against an order shall not be subject to any interest. We shall have right to adjust against such advances payments, which might become due to delay in lifting the ordered equipment or because of any incidental expenses we may incur on the purchaser's behalf. The advances shall be forfeited in case request for cancellation of order is accepted by us.
(B**) Interest** at 24% will be charged on overdue bill payment as per P.O. Terms Condition.

9. GENERAL LIEN

We shall be entitled to general lien on goods in our possession or dispatched for all money due to us from the purchaser, both under the contract or any other account and we shall also be entitled to apply any money in our hands under any contract due to us under any other contract or contracts.

10. FORCE MAJEURE

This offer is subjected to force majeure by which it means causes such as war, invasion, civil disobedience, government orders or restrictions, strikes, lockouts, riots, fires, epidemics, sabotages, trade embargoes, earthquakes, floods, accidents, breakdown of machinery, delay or inability to obtain labor, raw materials, wagons, shipping space or any other causes whatsoever beyond our reasonable control, affecting us or our sub-contractors, suppliers etc.

11. WARRANTY

All our equipment are thoroughly inspected before dispatch & therefore can be depended upon for long and trouble-free services. We undertake to make good by replacement or repair, defects arising out of faulty design, material or workmanship within 12 months of the date of dispatch, provided that if we so require, the parts is respect of which a claim is made, must be sent at purchaser's expenses to our works before liability can be entertained under this clause. Such expense will be refunded if our liability is admitted.

Bought out components are guaranteed by us only to the extent of guarantees given to us by our suppliers. Electrical components such as heaters, contactors, motors etc. rubber components & instruments such as pressure gauges, thermometers, combistats etc. are however not covered under this warranty. This warranty is valid subject to:

1. Installation having been completed within 3 months of dispatch of equipment & as per our installation instructions.
2. The supply / installation having been formally accepted as per the handling over clause no. 13 (below).
3. Supply of right fuel as per relevant IS specification available.
4. The equipment being operated & maintained as per our operation & maintenance manual.
5. The equipment or part thereof not being subject to accident, alteration, abuse or misuse.

12. COMMISSIONING

Commissioning service offered at the rate and terms mentioned in the quotation covers reasonable number of visits / meetings to:

1. Help in preparing the user to safely unload the material, when received.
2. Discuss installation details in terms of physical / technical requirements.
3. Make the user conversant with statutory requirements if any.
4. Discuss details of requirements in respect of power supply, feed system, fuel system, etc.
5. Ensure that the installation has finally been made as recommended.
6. Commission the unit for a short run from point of view of mechanical working and to set various controls necessary.
7. Conduct demonstration for the purpose of user's education for equipment operation and maintenance.

13. HANDING OVER

Unless otherwise specified in the order and accepted, handing over the equipment and/or installation would be considered as completed and a formal completion certificate shall be issued by the purchaser/user if:-

1. The material has been supplied as per the terms of scope of supply or with agreed deviations, if any.
2. Erection: If involved, has been completed generally as per the terms of order or with unavoidable deviations.
3. The equipment has been commissioned, if applicable, generally as agreed or the equipment and/or installation has been put to commercial use either with or without the help of our engineer.

The purchaser/user is expected to put the equipment to commercial use only after issuing a formal completion certificate. Our responsibility in terms of warranty shall cease straight away if the equipment is put to use without formal taking over.

14. CANCELLATION

Order received & acknowledge by us shall not be subject to cancellation, either wholly or partly or any reason whatsoever without our consent.

15. JURISDICTION

All contracts between purchasers & ourselves are deemed to be entered into, at Ahmedabad, and are therefore subject to the jurisdiction of courts at Ahmedabad.