



SINHGAD TECHNICAL EDUCATION SOCIETY'S

# SINHGAD INSTITUTE OF TECHNOLOGY

Sinhgad Institutes (Affiliated to Savitribai Phule Pune University, Pune & Approved by AICTE)

Gat No. 309/310, off Mumbai Pune Expressway Kusagaon (Bk), Lonavala Pune - 410401  
website: sit.sinhgad.edu

## 7.1.2: The Institution has facilities for alternate sources of energy and energy conservation measures

Sinhgad Institute of Technology takes initiative for green environment. Encouraging use of alternative energy sources for positive impact on environment is also a step in that direction. The energy usage the campus is boosting the people to use non-polluting sources to improve energy efficiency

The bill-copies of purchased for all equipment used are provided in this file

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Dr. M. S. GAIKWAD  
PRINCIPAL  
Sinhgad Institute Of Technology, Lonavala

## Tax Invoice

<b>GK Energy Marketers Pvt Ltd</b> FLAT NO.350, BLDG NO.25 L.B.S. MAIN ROAD LOKMANYA NAGAR, NAVI PETH NEAR DANDEKA BRIDGE CIRCLE PUNE - 411 030 GSTIN/UIN: 27AADCG3379A1ZT State Name : Maharashtra, Code : 27 CIN: U74900PN2008PTC132926 E-Mail : office@energymarketers.in	Invoice No. e-Way Bill No. Dated <b>PNGK/18-19/024</b> <b>23-Oct-2018</b> Delivery Note Mode/Terms of Payment Supplier's Ref. Other Reference(s) <b>PNGK/18-19/024</b> Buyer's Order No. Dated <b>SIT/PO/2017-18</b> <b>22-Dec-2017</b> Despatch Document No. Delivery Note Date Despatched through Destination Terms of Delivery
Buyer <b>SINHGAD INSTITUTE OF TECHNOLOGY</b> GAT NO- 309/310,KUSGAON (BK), OFF. MUMBAI-PUNE EXPRESS WAY, LONAVALA, PUNE-410401 State Name : Maharashtra, Code : 27	

SI No.	Description of Goods	HSN/SAC	Quantity	Rate	per	Disc. %	Amount
1	<b>SOLAR ROOFTOP SPV POWER PLANT-10KWP QIP</b> (GK ENERGY MARKETERS PVT LTD)	85437092	10.00 KWP	61,904.76	KWP		6,19,047.62
	<i>Output CGST MH 2.50%</i>			2.50	%		15,476.19
	<i>Output SGST MH 2.50%</i>			2.50	%		15,476.19
	Total		10.00 KWP				₹ 6,50,000.00

Amount Chargeable (in words)

E. & O.E

**Indian Rupees Six Lakh Fifty Thousand Only**

HSN/SAC	Taxable Value	Central Tax		State Tax		Total Tax Amount
		Rate	Amount	Rate	Amount	
85437092	6,19,047.62	2.50%	15,476.19	2.50%	15,476.19	30,952.38
<b>Total</b>	<b>6,19,047.62</b>		<b>15,476.19</b>		<b>15,476.19</b>	<b>30,952.38</b>

Tax Amount (in words) : **Indian Rupees Thirty Thousand Nine Hundred Fifty Two and Thirty Eight paise Only**

Company's VAT TIN : 27720808726V  
 Company's CST No. : 27720808726C  
 Company's Service Tax No. : AADCG3379AST001  
 Company's PAN : AADCG3379A

**Declaration**

We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.

for GK Energy Marketers Pvt Ltd



This is a Computer Generated Invoice

**GK Energy Marketers Pvt Ltd**  
 FLAT NO.350, BLDG NO.25 L.B.S. MAIN ROAD  
 LOKMANYA NAGAR, NAVI PETH  
 NEAR DANDEKA BRIDGE CIRCLE  
 PUNE - 411 030  
 CIN: U74900PN2008PTC132926

**SINHGAD INSTITUTE OF TECHNOLOGY**



Ledger Account



GAT NO- 309/310,KUSGAON (BK),  
 OFF. MUMBAI-PUNE EXPRESS WAY,  
 LONAVALA, PUNE



1-Apr-2017 to 9-Oct-2019



Date	Particulars	Vch Type	Vch No.	Debit	Credit	Page
21-3-2018	By Indian Bank(C/c A/c No-6133560128)	Receipt			2,50,000.00	
	To Closing Balance			2,50,000.00		
				<b>2,50,000.00</b>	<b>2,50,000.00</b>	
1-4-2018	By Opening Balance				2,50,000.00	
23-10-2018	To Sales @ 5% GST MH	Sales Maharashtra (MH)	PNGK/18-19/024	6,50,000.00		
18-3-2019	By Indian Bank(C/c A/c No-6133560128)	Receipt			2,50,000.00	
	By Indian Bank(C/c A/c No-6133560128)	Receipt			1,50,000.00	
	To Indian Bank(C/c A/c No-6133560128)	Online Payment		2,50,000.00		
	To Indian Bank(C/c A/c No-6133560128)	Online Payment		1,50,000.00		
	By Closing Balance			10,50,000.00	6,50,000.00	
				<b>10,50,000.00</b>	<b>4,00,000.00</b>	
					<b>10,50,000.00</b>	
1-4-2019	To Opening Balance			4,00,000.00		
13-6-2019	By Indian Bank(C/c A/c No-6133560128)	Receipt			1,50,000.00	
	By Indian Bank(C/c A/c No-6133560128)	Receipt			2,50,000.00	
	To Indian Bank(C/c A/c No-6133560128)	Payment		2,50,000.00		
	To Indian Bank(C/c A/c No-6133560128)	Payment		1,50,000.00		
2-7-2019	By Indian Bank(C/c A/c No-6133560128)	Receipt			1,00,000.00	
6-7-2019	By Indian Bank(C/c A/c No-6133560128)	Receipt			1,00,000.00	
11-7-2019	By Indian Bank(C/c A/c No-6133560128)	Receipt			1,00,000.00	
12-7-2019	By Indian Bank(C/c A/c No-6133560128)	Receipt			1,00,000.00	
				<b>8,00,000.00</b>	<b>8,00,000.00</b>	



Receipt Voucher			
G K Energy Marketers Pvt Ltd			
Date: 06/07/2019		Receipt No. 054	
Received From	Sinhgad Institute of Technology		
Towards	Against Work Order No- SIT/PO/2017-18 dated 22.12.2017 Installation of Solar Power pack 10Kwp		
Ch. Number	NA	Ref No.	MAHBH19187464065
Ch. Bank Name	NA		
Rupees:-	1,00,000/-	Rupees In Words:-	One lakh Rs Only
Received By			
 			
For :-GK Energy Marketers Pvt Ltd, LBS rd, Pune :-30			

Receipt Voucher			
G K Energy Marketers Pvt Ltd			
Date: 11/07/2019		Receipt No. 055	
Received From	Sinhgad Institute of Technology		
Towards	Against Work Order No- SIT/PO/2017-18 dated 22.12.2017 Installation of Solar Power pack 10Kwp		
Ch. Number	NA	Ref No.	MAHBH19192021148
Ch. Bank Name	NA		
Rupees:-	1,00,000/-	Rupees In Words:-	One lakh Rs Only
Received By			
 			
For :-GK Energy Marketers Pvt Ltd, LBS rd, Pune :-30			

Receipt Voucher			
G K Energy Marketers Pvt Ltd			
Date: 21/03/2018		Receipt No. 049	
Received From	Sinhgad Institute of Technology		
Towards	Against Work Order No- SIT/PO/2017-18 dated 22.12.2017 Installation of Solar Power pack 10Kwp		
Ch. Number	2569	Ref No.	NA
Ch. Bank Name	Cosmos Coperative Bank ltd		
Rupees:-	2,50,000/-	Rupees In Words:-	Two lakh Fifty Thousand Rs
Received By  			
For :-GK Energy Marketers Pvt Ltd, LBS rd, Pune :-30			

Receipt Voucher			
G K Energy Marketers Pvt Ltd			
Date: 02/07/2019		Receipt No. 053	
Received From	Sinhgad Institute of Technology		
Towards	Against Work Order No- SIT/PO/2017-18 dated 22.12.2017 Installation of Solar Power pack 10Kwp		
Ch. Number	NA	Ref No.	MAHBH19183281641
Ch. Bank Name	NA		
Rupees:-	1,00,000/-	Rupees In Words:-	One lakh Rs Only
Received By  			
For :-GK Energy Marketers Pvt Ltd, LBS rd, Pune :-30			



Receipt Voucher

G K Energy Marketers Pvt Ltd

Date: 12/07/2019

Receipt No. 056

Received From Sinhgad Institute of Technology

Towards Against Work Order No- SIT/PO/2017-18 dated 22.12.2017 Installation of Solar Power pack 10Kwp

Ch. Number NA Ref No. MAHBH19193094191

Ch. Bank Name NA

Rupees:- 1,00,000/- Rupees In Words:- One lakh Rs Only

Received By

For :-GK Energy Marketers Pvt Ltd,  
LBS rd, Pune :-30



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**Sinhgad Institutes**

Gate No. 309/310, Kusgaon (B.K.), Off. Mumbai - Pune Express way, Lonavala, Dist. Pune - 410 401.

**PROF. M. N. NAVALE**  
M.E. (Elect.) MIE, MBA  
Founder President**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., M.P.M., Ph.D.  
Founder Secretary**DR. M. S. GAIKWAD**  
M.E., Ph.D. (Electronics Engg.)  
Principal

Ref: SIT/PO/2017-18

Date -: 22/12/2017

To,  
JK Energy Marketers Pvt. Ltd.,  
F. No. 350, B No. 25, Ground Floor,  
Lokmanya Nagar, LBS Main Road,  
Near Dandekar Bridge Circle,  
Pune- 411030**Subject :- Purchase Order for Installation of 10 kW<sub>p</sub> Rooftop Solar Power Plant under QIP of SPPU.**

Ref.: Your Quotation dated 27/11/2017.

Sir,  
With reference to the subject mentioned above, we are pleased to place Purchase Order for Installation of 10 kW<sub>p</sub> Rooftop Solar Power Plant Under QIP of SPPU.


Sr. No.	Description	Capacity (kW <sub>p</sub> )	Unit Rate per kW <sub>p</sub> (Rs.)	Total Amount (Rs.)
1	Installation of 10 kW <sub>p</sub> Rooftop Solar Power Plant	10	65,000/-	6,50,000/-
<b>Total (Rs.)</b>				<b>6,50,000/-</b>
(Rs. Six Lakh Fifty Thousands Only)				

**Terms and Conditions:**

1. Technical Specification : As per SPPU/NIVAV/742, Dated 01/08/2017
2. Taxes : GST including
3. Payment : Rs. 2,50,000/- Advance and Balance on satisfactory installation and inspection
4. Installation : Within 30 days after receipt of P. O.
5. Product warranty : 5 years and 25-year linear power output warranty on PV modules.

Thanking you.

Yours sincerely,

  
**Founder President / Vice President**  
**STES**



# SINGHAD TECHNICAL EDUCATION SOCIETY

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

10/15, Erandwane, Smt. Khillaro Marg, Off. Karve Road, Pune - 411 004. Telefax : (020) 2545 4008 Email : stes@sinhgad.edu

**PROF. M. N. NAVALE**  
M.E. (ELECT.) MIE., MBA.  
FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

Date :- 16.12.2008

P.O.No.H-135 /08-09

To,  
Anant Urja  
M-1, Nirant Colony,  
Bibvewadi,  
Pune :- 411 037.

Sub :- Supply and Installation of Solar Heating System for Hostel building (96 rooms) for Sinhgad Technical Education Society at Gat. No. 320, Kusgaon, Lonavala.

*Rajgad Hostel*

Sir,

This has reference to your quotation PRO./08-09/STES/3 dated 26.11.2008 and subsequent discussion you had with our Project Manager and we are pleased to place an order as per details given herebelow.

Sr. No.	Description	Unit	Qty.	Rate In (Rs.)	Amount In (Rs.)
1	Supply and Installation of Solar Water Heating System for 12000 Lpd Solar Water Hating System (As per specifications given in Annexure - I)	Nos.	01	16,50,000.00	16,50,000.00
<b>Total Amount</b>					<b>16,50,000.00</b>

(Rupees Sixteen Lacs Fifty Thousand Only)

### Terms And Conditions

1. Price : Above prices are for supply and installation of the system including all piping at Lonavala Campus.
2. Taxes : Inclusive of all taxes duties and any other levies.
3. Completion : Immediate.
4. Warranty : 7 years from the date of installation.
5. Payment : The payment shall be made on satisfactory completion of the work and certification of the bill by our Engineer.
6. Billing : Bill to be raised in favour of Sinhgad Technical Education Society at Lonavala.

Thanking you,

Yours faithfully

*M.N. Navale*  
M.N.NAVALE  
PRESIDENT

*Seen*  
*A*  
*DRD*  
*23/12/12*



Technical Specifications

**SWHS of 12000 Lpd @ 60° C**

Capacity : 12000 Lpd per SWHS

No of SWHS : 2000 Lpd x 06 Nos.

**Output**

Temperature : 60° C

Type of SWHS : Gravity - flow

Tank : Insulated S.S. Tank

BIS approved & laser/ ultrasonic welded collector panel 96 Nos.

Tank stands 06 Nos.

**Collector Support :**

Cold water piping : G.I. 1" x 5 mtr. x 06 Nos. *30 mt*

G.I. 1/2" x 6 mtr. x 06 Nos. *36 mt*

System piping : G.I. 1" x 20 mtr. x 06 Nos. *12 mt*

Utility piping : KITEC : 3/4" x 35 mtr. x 06 Nos. *= 210*

KITEC : 1/2" x 70 mtr. x 06 Nos. *= 420*

Bib cocks : 1/2" x 96 Bathrooms

**Collector Panel**

Make : BIS - approved, Branded

Type : Cu fins-Cu pipes

Welding : LASER

Absorber : Selective -absorption coating

Coating

Finish : Powder coated

Certification : BIS-approved, as per IS:12933

**Collectors Supports**

Material : Frame -M.S. Angle 35mm x 35mm x 4mm thick.

M.S. Angle 20mm x 20mm x 3mm thick.

Finish : Red oxide primer, black finish paint.

**Tank**

Capacity : 2000L.tr.

Type : Horizontal, depressurized

Dimensions : Ø 1000mm x 2500 mm L

Ends : Conical

Material : S.S. 304, JINDAL make / imported

Shell- 14SWG/2mm; Conical ends-14SWG/2mm : 2000L.tr

End fittings : S.S.304

Welding : TIG

Cladding : Aluminum 24SWG, HINDALCO/BALCO-make

*9+728+70.40  
= 122*

: 2 :

Insulation : Rockwool, density 48 kg/m<sup>3</sup>, 100 mm thickness  
Sacrificial Anode : Aluminum Ø 12.5 mm (Useful only upto hardness of 100 mg/Ltr.)

**Tank Stand**

Material : Tank legs - M.S. Angle 50mm x 50mm x 5mm thick;  
Tie brace- M.S. Angle 35mm x 35mm x 5mm thick  
Saddle support-M.S. flat 100mm x 6mm thick  
Base Plate - 75mm x 6mm thick  
Finish : Red oxide primer, black finish paint.

**Old piping & System piping**

Material : G.I. 'B' class, galvanized as per IS:1239  
Make : B.I.S. - approved (I.S.I. mark)  
Pipe fittings : B.I.S.-approved (I.S.I. mark)  
Insulation (for : Rockwool pipe section, density 144 kg./m<sup>3</sup>, 25mm thickness  
System piping)

**Utility Piping**

Material : Multi-layered composite (Aluminum/ Polyethylene composite)  
Make : KiTEC PR PL (Plumbing-grade), as per BS 7291:part I:1990  
Pipe fittings : KiTEC composite compression fittings-internal sealing

82442





# SINHGAD TECHNICAL EDUCATION SOCIETY

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

19/15, Erandwane, Smt. Khilare Marg, Off. Karve Road, Pune - 411 004. Telefax : (020) 2545 4008 Email : stes@sinhgad.edu

**PROF. M. N. NAVALE**  
M.E. (ELECT.) MIE., MBA.  
FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

Date : 23.11.2009

P.O.No.H-119 /09-10

To,  
Chaitanya Saur Urja  
181,Shop No. 7,  
Nav Prassana Hsg. Soc.,  
Opp. Hotel Janjira, Navi Peth,

**Sub :- Provision of Solar Water Heating System for Hostel at Kusgaon, Lonavala.**

*Pratapgad & Tarangad Hostel*

Sir,

This has a reference to your quotation no. Ud/inth/067rev/09 dated 06.11.2009 and subsequent discussion you had with our Project Manager and we are pleased to place work order for the above mentioned job at the rates quoted by you.

The work is to be executed to the entire satisfaction of the undersigned and adhering to the specifications stipulated in the Annexure I. The work is to be completed within the period of 03 months i.e. by 23<sup>rd</sup> February 2010.

The undersigned, agrees with the estimated cost of Rs.51,10,840.00 (Rupees Fifty One Lacs Ten Thousand Eight Hundred Fourty Only.). as per details given in Appendix 'A'. However, the payment shall be made as per the actual measurements jointly recorded and accepted.

Please return copy of this Work order with Annexure - I duly signed in token of your acceptance.

Thanking you,

Yours faithfully,

M.N.NAVALE  
PRESIDENT  
Encl : Appendix 'A'

*copy for info n.a. to*  
1) Civil Engineer Shri Vasekar Sir  
2) Electrical Eng. Shri Hegdekar Sir

*20/11/09*

*137/142*



## Appendix 'A'

Sr. No.	Description	Unit	Qty.	Rate In (Rs.)	Amount In (Rs.)
1	Supply, installation and commission of 36000 LPD standard Thermosyphon Non HHC, Non pressurised type solar water heating system @60° C consisting of 36 No x 1000 Ltr. insulated SS 304 hot water storage tanks (12 on each building) 288 Nos. TBP make BIS approved solar flat collectors (96 on each building) Mounting stand for tanks and supports for collectors. Temperature gauge, strainer, sacrificial anode, heating element 3kw x 3 Nos. for each tank Ball valve - 1 No Grouting of collector and tank legs etc. complete as per detailed specifications given in your quotation Xerox copy which is attached at Annexure to Appendix 'A'	Job	01	48,68,500.00	48,68,500.00
2	MS frame work for collectors and fixing of complete system against wind loads	Kg.	3462	70.00	2,42,340.00
					51,10,840.00

(Rupees Fifty One Lacs Ten Thousand Eight Hundred Fourty Only.)

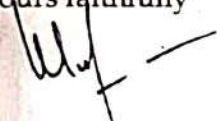
*Handwritten signature*

### Terms and Conditions

1. Rate quoted include supply, install and commissioning of the system satisfactorily. Hot water with adequate pressure shall be available at all the bathrooms at a time. Also the rate quoted include all taxes, freight and insurance except octroi. No octroi is applicable at Kusgaon , Lonavala.
2. Completion period : 3 months from the date of work order.
3. Water and electricity shall be provided by STES.
4. Civil work for grouting shall be provided by STES.
5. Available accommodation for storage shall be provided by STES.
6. Payment : 10% with work order as advance.  
70% against the delivery of material  
20% On completion and commission of the system satisfactorily.
7. Gaurantee : 60 months from the date of completion of installation except glass panel.

Thanking you,

Yours faithfully'



M.N.NAVALA  
PRESIDENT





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M.E. (ELECT.) MIE., MBA.  
FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

Date :- 13.09.2011

P.O.No.- 180 / 10-11

To,  
Racold Thermo Ltd.  
Chakan Talegaon Road,  
Chakan Dist.,  
Pune

**Sub: Supply and Installation of Solar Water Heating System at our Lonavala Campus.**

Sir, *Karve, Godawan, Indrayan & Lonavala Hostel*

This has reference to your quotation No. Nil dated 27.11.2010 and subsequent discussion you had with our Project Manager. We are pleased to place an order as per details given herebelow.

Sr. No.	Description	Unit	Qty.	Rate Per Unit (Rs.)	Amount In (Rs.)
1	Supply and Installation of Solar Water Heating System including plumbing :				
	A) 110 room Hostel Bldg (3 Bldgs, 13200 Ltr. each)	Lit.	39600	127.00	50,29,200.00
	B) 88 room Hostel Bldg (1 Bldg, 11000 Ltr. each)	Lit.	11000	127.00	13,97,000.00
	Details of system, scope of work, specifications etc shall be as per Appendix-A enclosed				
	<b>Total Amount</b>				<b>64,26,200.00</b>

(Rupees Sixty Four Lacs Twenty Six Thousand Two Hundred Only.)

### Terms and Conditions

1. Price : Above prices are for supply and installation of the system including all piping.
2. Taxes : Inclusive of all taxes .
3. Warranty : 7 years from the date of Installation .
4. Payment : An advance of 10% shall be paid on accepting the order. 75% of amount will be paid on receipt of 100% materials at site duly certified by STES engineer. 15% of amount will be paid only after installation.

Note- Our P.O. No.333/10-11 dt. 03.03.2011 be treated as cancelled.

Please sign the duplicate copy as token of your acceptance.

Thanking you,

Yours faithfully

*M.N. Navale*  
M.N. NAVALE  
PRESIDENT

Encl : Appendix 'A'

7 ✓



**TECHNICAL SPECIFICATIONS**

Solar Flat Plate Collector – Omega Type		
1	Collector design type	Italian design- screw less construction for durability
2	Type of absorber	Selective Black chrome with Nickel Undercoat
3	No. of Risers	10 risers
4	Riser Tube	Copper tube dia 12.5mm x 0.55mm thk.
5	Fin Material	Al 0.50 mm thick
6	Header Tube	Copper tube dia 25.4mm x 0.72mm thk x1120mm length
7	Size of collector	2060 x 1055 x100 mm
8	Glass	Thoughened glass 4mm thick
9	Transmittance of glass	Up to 87%
10	Solar Absorptivity	0.966
11	Solar Emmissivity	0.12
12	Frame Material	Aluminium –PU coated
13	Collector Body	Box Type Structure
14	Insulation	Glass wool and Rock wool
15	Insulation Thickness	Back Insulation -50mm thick, Side Insulation -25mm thick
16	Insulation Thickness	Back Insulation -50mm thick, Side Insulation -25mm thick
17	Dry Weight	50 kg
18	End Connections	Free/ Brass serrated couplings dia 25mm
19	Hardware	Stainless Steel –SS 304
20	Back Al. reflector	Aluminium reflector foil -50 micron thik
21	Side Al reflector	Aluminium reflector foil -100 micron thik
22	Testing Pressure	6 bar
23	Efficiency	More than 77 %
24	Grommel	EPDM
25	Glass Beeding	EPDM
26	I No. of collectors	1No per 125Lit.

\*\* Guarantee-7 years replacement guarantee on all Omega Collectors

Tank (SS 304L/ Rock wool / Aluminium cladding)		
1	Insulation Material	Rock wool 100mm thick
2	Waterproof Covering	Aluminum Cladding
3	Inner Container	SS 304L 2mm thick
4	Cladding Material	Al-24 SWG

  
Employer

Contractor

## PRICING AND SCOPE OF SUPPLY

GRAVITY CIRCULATION SYSTEM FOR EACH BUILDING		
Collector Type	Flat Plate Type	Flat Plate Type
Tank Type	SS Tank	SS Tank
No. of Rooms	110 Nos.	88 Nos.
Total No. Students	110x4 Nos=440 Nos.	88x4 Nos.=352 Nos.
Hot water per Student	30Lit	30Lit
System Capacity LPD	440x30= 13200 LPD	352x30=10560 LPD=R/O 11000LPD
System Divided into	2400 LPD x 4 = 9600LPD 1800 LPD x 2 = 3600LPD	2000 LPD x 4 =8000 LPD 1500 LPD x 2 + 3000 LPD
Rate per Liter inclusive of Complete Plumbing of the System & Hostel Utility	Rs.127.00/Lit	Rs.127.00/Lit
No. of Collectors	92Nos	76 Nos.

**Scope of Supply:**

Solar Tank, Solar Collector Panles, Stand for Solar Collector Panles & Solar Tank, Temperature Gauge, Electrical Backup, Tank to Pnel Plumbing, Inlet Plumbing to solar System, outlet Plumbing to Solar System. Transportation, Lifting of the System, System Installation & Commissioning.



## PLUMBING BREAKUP FOR LONAVALA CAMPUS

Pipe Size	Pipe Type	Utility
2532 (1.25")	Kitec	Inlet & Outlet Plumbing
2025 (1")	Kitec	Outlet Plumbing
1620 (3/4")	Kitec	Outlet Plumbing
1216 (1/2")	Kitec	Outlet Plumbing
1/2"	GI+Rockwol +Al Cladding	Airvent Pipe
1"	GI+ Rockwol +Al Cladding	System Plumbing Tank-Panel
Valve Size	Valve Type	Utility
1/2"	NRV at the Inlet of Bathroom	To Prevent water mixing
1.25"	NRV at the Inlet of System	To prevent back flow from system
1.25"	Ball Valve	To turn system on/off
	Temperature Gauge	To Show temperature
3 Kw	Electrical Backup	To heat water in rainy season
	Air Akeys	To remove air trapped in Panels

### Duct Layout

2025 (1") 5<sup>th</sup> Flr  
 2025 (1") 4<sup>th</sup> Flr  
 1620 (3/4") 3<sup>rd</sup> Flr  
 1620 (3/4") 2<sup>nd</sup> Flr  
 1216 (1/2") 1<sup>st</sup> Flr

### Terrace Line Details

Inlet Line 2532 (1.25")  
 Main Header Line 2532 (1.25")  
 Divided into two line 2025 (1")

  
 Employer

Contractor





# SINHGAD TECHNICAL EDUCATION SOCIETY

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

19/15, Erandwane, Smt. Khilare Marg, Off Karve Road, Pune - 411 004.  
Telefax : (020) 2545 4008 E-mail : stes@sinhgad.edu Website : www.sinhgad.edu

**PROF. M. N. NAVALE**  
M.E. (ELECT.) MIE., MBA.  
FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

Date :- 13.09.2011

P.O.No.- 182 / 11-12

To,  
Racold Thermo Ltd.  
Chakan Talegaon Road,  
Chakan Dist.,  
Pune

**Sub: Supply and Installation of Solar Water Heating System for 96 rooms Hostel, (G+3 floors) building at our Lonavala Campus.**

*Vishalgad Hostel*

Sir,

This has reference to your quotation No. Nil dated 04.05.2011 and subsequent discussion you had with our Project Manager. We are pleased to place an order as per details given herebelow.

Sr. No.	Description	Unit	Qty.	Rate Per Unit (Rs.)	Amount In (Rs.)
1	Supply and Installation for 12000 Lpd Solar Water Heating System (As per Appendix 'A')	Ltrs.	12000	127.00	15,24,000.00
	<b>Total Amount</b>				<b>15,24,000.00</b>

(Rupees Fifteen Lacs Twenty Four Thousand Only.)

### Terms and Conditions

1. Price : Above prices are for supply and installation of the system including all piping.
2. Taxes : Inclusive of all taxes .
3. Warranty : 7 years from the date of Installation for solar panels and 1 year for Tanks.
4. Payment : 80 % of amount shall be paid on receipt of 100% materials at site and balance 20% of amount will be paid only after installation & satisfactory commissioning the system.

**Note-** Our P.O. No.54/11-12 dt. 10.06.2011 be treated as cancelled.

Please sign the duplicate copy as token of your acceptance.

Thanking you.

Yours faithfully

M.N. NAVALE  
PRESIDENT

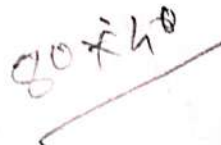
Encl : Appendix - 'A'

TECHNICAL SPECIFICATIONS

SWHS of 2000 Lpd x 6nos @ 60° C for 64 rooms Hostel		
1	Capacity of main storage tank	2000 Ltr. x 6 Nos.
2	Material of Construction	SS304L/ 2mm thick.
3	No. of Solar Collectors	14 Nos Per Tank, "RACOLD" make omega type
4	Insulation material	Rock wool
5	Thickness of insulation	100mm
6	Density of insulation	48kg/meter cube
7	Insulation cover	Aluminium 24swg
8	Welding	TIG welding
9	Collector design type	Italian design- screw less construction for durability
10	Type of absorber	Selective Black chrome with Nicket Undercoat
11	No. of Risers	10 risers
12	Riser Tube	Copper tube dia 12.5mm x 0.55mm thk.
13	Fin Material	Al 0.50 mm thick
14	Header Tube	Copper tube dia 25.4mm x 0.72mm thk x 120mm length
15	Size of collector	2060 x 1055 x 100 mm
16	Glass	Thougened glass 4mm thick
17	Transmittance of glass	Up to 87%
18	Solar Absorptivity	0.966
19	Solar Emmisivity	0.12
20	Frame Material	Aluminium -PU coated
21	Collector Body	Box Type Structure
22	Insulation	Glass wool and Rock wool
23	Insulation Thickness	Back Insulation -50mm thick, Side Insulation -25mm thick
24	Insulation density	48kg/mtr cube
25	Dry Weight	50 kg
26	End Connections	Free/ Brass serrated couplings dia 25mm
27	Hardware	Stainless Steel -SS 304
28	Back Al. reflector	Aluminium reflector foil -50 micron thik
29	Side Al reflector	Aluminium reflector foil -100 micron thik
30	Testing Pressure	6 bar
31	Efficiency	More than 77 %
23	Grommel	EPDM
34	Glass Beading	EPDM

Internal plumbing between panel and solar tank, inlet plumbing to solar tank, outlet plumbing from solar tank to utility using kitec make pipes only.

  
Employer



Contractor



(E)

# SINHGAD TECHNICAL EDUCATION SOCIETY®

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

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M.E. (ELECT.) MIE., MBA.  
FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

P.O.No.H- 154 /15-16

Date :- 07.01.2016

To,  
RenXSol Ecotech Private Limited  
B-2/5, Ganga Residency  
Hadapsar,  
Pune :- 411 028

Sub :- Supply and Installation of Solar Water Heating System for Sinhgad Technical Education Society at Lonavala.

*Punhalgaol Boys Hostel*

Sir,

This has reference to your quotation No. Nil dated 07.01.2016 and subsequent discussion you had with our Project Manager and we are pleased to place an order as per details given herebelow.

Sr. No.	Description	Unit	Qty.	Rate In (Rs.)	Amount In (Rs.)
1	Supply and Installation of Solar Water Heating System for 10000Lpd Solar Water Hating System (As per Annexure - I)	Ltrs.	10000	147.00	14,70,000.00
<b>Total Amount</b>					<b>14,70,000.00</b>

(Rupees Fourteen Lacs Seventy Thousand Only.)

### Terms And Conditions

1. Price : Above prices are for supply and installation of the system including all piping.
2. Taxes : Inclusive of all taxes.
3. Warranty : 7 years from the date of installation.
4. Payment : The payment shall be made on satisfactory completion of the work and certification of the bill by our Engineer.

Thanking you,

Yours faithfully

M.N.NAVALE  
PRESIDENT

(W)

13

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# SINHGAD TECHNICAL EDUCATION SOCIETY®

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

Sinhgad Institutes

19/15, Erandwane, Smt. Khilare Marg, Off Karve Road, Pune - 411 004.

Telefax. : (020) 2545 4008 Email : stes@sinhgad.edu Website : www.sinhgad.edu

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M.E. (ELECT.) MIE., MBA.  
FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

P.O.No. 168/16-17

Date :- 18.01.2017

To,  
Renxsol Ecotech Private Limited  
B-2/5, Ganga Residency,  
Hadapsar,  
Pune - 411 028

*Soyyargad*

**Sub :- Supplying, Installing, Testing and Commissioning of Solar Water Heating System for new hostel of STES at Kusgaon - Lonavala.**

Sir,

This has reference to your quotation no, Nil dated 16.01.2016 and subsequent discussion you had with our Project Manager. We are pleased to place an order as per details given below:-

Sr. No.	Description of Items	Unit	Qty.	Rate In (Rs.)	Amount In (Rs.)
1	Supplying, Installing, Testing and commissioning of Solar Water Heating System for 12000 litres capacity as per the scope and specifications given in Annexure I attached	Ltrs.	12000	147.00	17,64,000.00
<b>Total Amount</b>					<b>17,64,000.00</b>

**(Rupees Seventeen Lacs Sixty Four Thousand Only.)**

### Terms and Conditions

1. Price : Above prices are for Supplying, Installing, Testing and commissioning of Solar Water Heating System including cold and hot water piping upto each bathroom including bibcock.
2. Taxes : Inclusive of all taxes, duties and transportstation.
3. Completion : 2 months from the date of P.O.
4. Warranty : 7 years from the date of installation.
5. Payment : 50% advance with Purchase Order and balance after satisfactory completion of the work and certification of bill by our Engineer.

Thanking you,

Yours faithfully

*M.N. Navale*

**M.N.NAVALE**  
**PRESIDENT**

Encl - Annexure - I



## Annexure-I

1. Scope : The scope of work includes design, supply, install, testing and commissioning of Solar Water Heating System of 12000 liters capacity including solar panels, storage tanks and cold and hot water piping upto each bathroom including 15mm CP Bibcock of reputed make. The cold water piping shall be of class 'B' GI pipe and hot water piping shall be kitec piping as per standard. Both cold water and hot water piping shall be of adequate size so as to give desired pressure at the user end.

2. Hot water :	i) Total number of Tanks	:	4 Nos. (2 Nos)	
Storage tank	ii) Capacity of each tank	:	3000 litre Horizontal	1500 litre
	iii) Material for construction	:	SS 304L	
	iv) Dimensions	:	As required	
	v) Insulation	:	Rock wool, 100mm thick of density 48kg/cu mtr.	
	vi) Insulation cover	:	Aluminium 22 SWG	
	vii) Welding	:	TIG Welding	
3. Collector:	i) Total number	:	96 Nos.	
	ii) Type	:	Cu-Cu	
	iii) Size	:	2000mmx1000mmx95mm.	
	iv) Absorptivity	:	> 0.95	
	v) Emissivity	:	< 0.12	
	vi) Absorber Coating	:	Ultrasonic with Selective Coating	
	vii) Frame material	:	Extruded Aluminium, 16swg	
	viii) Insulation	:	Rock wool/ Fiber glass wool	
	ix) Glazing	:	Toughened glass	
	x) Grommet	:	EPDM	
	xi) Glass Beeding	:	EPDM	
	xii) Hard ware	:	SS304	
	xiii) Finish	:	Powder Coated	
4. Piping:	i) Cold water supply	:	GI class 'B'	
	ii) Hot water supply	:	kitec self Insulated	
5. Support: Structure	i) Material	:	MS ISA/ISMC uly painted with one primer and 2 coats of bank paint	
6. Ball valve:	i) Material	:	Gun Metal/ Brass	
	ii) Seat	:	PTEE seat	
	iii) Trim	:	Alloy ball (Nickel coated)	
	iv) End connection	:	Screwed female BSP thread	
	v) Make	:	ISI Make	

Contd.....2

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7. Design Parameters:

- |  |   |                    |
|--|---|--------------------|
| i) Solar Radiation                     | : | 1000 watts/Sq.mtrs |
| ii) Efficiency of Collector            | : | 70%                |
| iii) Ambient Temperature of cold water | : | 25deg.C            |
| iv) Sunshine hours average per day     | : | 5/6 hr.            |
| v) Output hot water temperature at     | : | 60 deg. C          |
| vi) Operating pressure of system       | : | Normal flow        |
| vii) Operation                         | : | On gravity flow    |

8. Scope of STES :
- i) Safe Storage facility for material
  - ii) Electrical power free of cost.

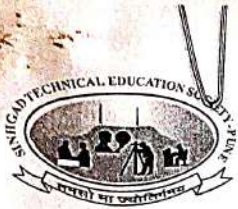


Employer



Contractor





# SINHGAD TECHNICAL EDUCATION SOCIETY™

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

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FOUNDER PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

P.O.No. 27 /15-16

Date :- 23.06.2015

To,  
NESPAL Air Water Heater Pvt. Ltd.  
Plot no. A-51, Five star Industrial Area,  
M.I.D.C. Shendra,  
Aurangabad- 431010.

**Sub :- Provision of Solar Air Water Heater for Purandar Hostel at STES Kusgaon-  
Lonavala. (2000 litres/day).**

Sir,

This has reference to your quotation No. MH/PS/0515/18/02 dated 2.05.2015 and discussions you had with our Project Manager and we are pleased to place an order for the above-mentioned work as per details given here below.

Sr. No.	Description of Items	Unit	Qty.	Rate In (Rs.)	Amount In (Rs.)
1	Providing , Testing and Commissioning Solar Air water heater System including connection to each bathroom including bib cock. Capacity 2000 litres/day as per specification given in your quotation	Each	1	3,75,000.00	3,75,000.00
<b>Total Amount</b>					<b>3,75,000.00</b>

(Rupees :- Three Lacs Seventy Five Thousand Only.)

### TERMS AND CONDITIONS

1. Price : Rates are inclusive of all taxes.
2. Completion : Three Weeks from the date of work order..
3. Transportation : At actual.
4. Warranty : One year from the date of installation.
5. Payment : The payment shall be made on satisfactory completion of the work and certification of the bill by our Engineer.

Thanking you,

Yours faithfully

M.N. NAVALE  
PRESIDENT



# Tax Invoice

# BT5428

Balance Due  
**Rs.0.00**

## BLACKT ELECTROTECH

PLOT NO 33, MAHADEO NAGAR,  
AKOLI ROAD,  
AMRVATI Maharashtra 444605  
India  
GSTIN 27BWNPD2719K1ZA

Bill To  
**Sinhgad Institute of Technology, Lonavala**  
Pune MH  
GSTIN 27AABTS9900QIZS

Invoice Date : 22/09/2021  
Terms : Advance  
Due Date : 22/09/2021

Place Of Supply: Maharashtra (27)

#	Item & Description	HSN/SAC	Qty	Rate	CGST	SGST	Amount
1	Photosensitive PIR Device Ceiling type : (BT31C)	903180	13.00	290.00	339.30 9%	339.30 9%	3,770.00
Sub Total							3,770.00
CGST (9%)							339.30
SGST (9%)							339.30
<b>Total</b>							<b>Rs.4,448.60</b>
Payment Made							(-) 4,448.60
<b>Balance Due</b>							<b>Rs.0.00</b>

### Notes

Looking forward for your business.

### Terms & Conditions

#### Terms & Conditions

1. Payment term 100% advance.
2. Rates based on current USD.
3. Client is responsible for GST details, company will not be responsible if any problem comes; please check.

BLACKT ELECTROTECH  
  
PROPRIETOR





# Tax Invoice

# BT5452

Balance Due  
**Rs.4,106.40**

**BLACKT ELECTROTECH**  
PLOT NO 33, MAHADEO NAGAR,  
AKOLI ROAD,  
AMRVATI Maharashtra 444605  
India  
GSTIN 27BWNPD2719K1ZA

Bill To  
**Sinhgad Institute of Technology, Lonavala**  
Pune MH  
GSTIN 27AABTS9900QIZS

Invoice Date : 24/09/2021  
Terms : Advance  
Due Date : 24/09/2021

Place Of Supply: Maharashtra (27)

#	Item & Description	HSN/SAC	Qty	Rate	CGST	SGST	Amount
1	Photosensitive PIR Device Ceiling type : (BT31C)	903180	12.00	290.00	313.20 9%	313.20 9%	3,480.00

Sub Total 3,480.00  
CGST (9%) 313.20  
SGST (9%) 313.20  
**Total Rs.4,106.40**  
**Balance Due Rs.4,106.40**

## Notes

Looking forward for your business.

**BLACKT ELECTROTECH**  
*[Signature]*  
**PROPRIETOR**

## Terms & Conditions

### Terms & Conditions

1. Payment term 100% advance.
2. Rates based on current USD.
3. Client is responsible for GST details, company will not be responsible if any problem comes; please check.



# Tax Invoice

# BT5438

Balance Due  
Rs.0.00

## BLACKT ELECTROTECH

PLOT NO 33, MAHADEO NAGAR,  
AKOLI ROAD,  
AMRVATI Maharashtra 444605  
India  
GSTIN 27BWNPD2719K1ZA

Bill To  
**Sinhgad Institute of Technology, Lonavala**  
Pune MH  
GSTIN 27AABTS9900QIZS

Invoice Date : 23/09/2021  
Terms : Advance  
Due Date : 23/09/2021

Place Of Supply: Maharashtra (27)

#	Item & Description	HSN/SAC	Qty	Rate	CGST	SGST	Amount
1	Photosensitive PIR Device Ceiling type : (BT31C)	903180	12.00	290.00	313.20 9%	313.20 9%	3,480.00

Sub Total 3,480.00

CGST (9%) 313.20

SGST (9%) 313.20

**Total Rs.4,106.40**

Payment Made (-) 4,106.40

**Balance Due Rs.0.00**

### Notes

Looking forward for your business.

### Terms & Conditions

#### Terms & Conditions

1. Payment term 100% advance.
2. Rates based on current USD.
3. Client is responsible for GST details, company will not be responsible if any problem comes; please check.

**BLACKT ELECTROTECH**  
*[Signature]*  
**PROPRIETOR**





# Tax Invoice

# BT5425

Balance Due  
Rs.0.00

## BLACKT ELECTROTECH

PLOT NO 33, MAHADEO NAGAR,  
AKOLI ROAD,  
AMRVATI Maharashtra 444605  
India  
GSTIN 27BWNPD2719K1ZA

Bill To  
**Sinhgad Institute of Technology, Lonavala**  
Pune MH  
GSTIN 27AABTS9900QIZS

Invoice Date : 21/09/2021  
Terms : Advance  
Due Date : 21/09/2021

Place Of Supply: Maharashtra (27)

#	Item & Description	HSN/SAC	Qty	Rate	CGST	SGST	Amount
1	Photosensitive PIR Device Ceiling type : (BT31C)	903180	13.00	290.00	339.30 9%	339.30 9%	3,770.00
Sub Total							3,770.00
CGST (9%)							339.30
SGST (9%)							339.30
<b>Total</b>							<b>Rs.4,448.60</b>
Payment Made							(-) 4,448.60
<b>Balance Due</b>							<b>Rs.0.00</b>

### Notes

Looking forward for your business.

### Terms & Conditions

Terms & Conditions

1. Payment term 100% advance.
2. Rates based on current USD.
3. Client is responsible for GST details, company will not be responsible if any problem comes; please check.

BLACKT ELECTROTECH

  
PROPRIETOR



# SINGHAD TECHNICAL EDUCATION SOCIETY®

(Regd. No. MAH / 7199-93 / Pune dt. 6/7/93 & F-8282 (Pune) dt. 12/8/93)

Sinhgad Institutes

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FOUNDER PRESIDENT

DR. (MRS.) SUNANDA M. NAVALE  
B.A., MPM, Ph.D.  
FOUNDER SECRETARY

P.O.No. 85/17-18

Date :- 12.01.2018

To,  
INDOMAX MULTI-TRADES  
106-Daisy, Silver Dale, 66/B,  
B T Kawade Road, Ghorpadi,  
Pune-411 001.

**Sub:- Supply of LED Floodlight for STES at Kusgaon- Lonavala.**

Sir,

This has reference to your quotation No. QTN/IMT/-0118 dated 10.01.2018 and discussion with our Project Manager we are pleased to place an order for supply of material as per details given here below.

Sr. No.	Description	Unit	Qty	Rate In (Rs.)	Amount In (Rs.)
1	Supply of BJFL 100W LEDs HSN Code: 94054090.	Nos.	40	6350.00	2,54,000.00
2	Supply of BCLSB 18W 4ft Batten HSN Code: 94051090	Nos.	66	450.00	29,700.00
3	Supply of surface mounted 18W Downlighter HSN Code: 94051090	Nos.	89	800.00	71,200.00
<b>Total Amount</b>					<b>3,54,900.00</b>
<b>Add GST 12%</b>					<b>42,588.00</b>
<b>Net Amount</b>					<b>3,97,488.00</b>

(Rupees Threes Lacs Ninety Seven Thousand Four Hundred Eighty Eight only)

### Terms and Conditions

1. Price : Above prices is inclusive of all taxes, duties and GST.
2. Completion : 1 Week.
3. Delivery : FOR Site.
4. Warranty : Flood light and batten- 60 months, Surface downlighter -24 months from the date of supply.
5. Payment : On delivery and certification of bill by our Site Engineer.

Thanking you,

Yours faithfully

M.N.NAVALE  
PRESIDENT

