Solar Hot Air Drying Systems

Solar energy-based Hot Air Drying Solutions from Mamata Energy for heated air requirements ranging from 30 to 85 °C

**BENEFITS**
- Very low payback*
- Optimal performance even in low ambient temperatures
- Seamless integration with existing systems
- Long life
- Low maintenance

* Cost benefit analysis sheet attached

**FEATURES**
- Revolutionary collector technology
- SS Lined Inner tanks
- SS piping with PUF Insulation
- High heat resistant pump up to 120 °C
- Two stage heat exchange unit
- Electronic control system

**10kW Solar Hot Air Drying System**

<table>
<thead>
<tr>
<th>COLLECTOR</th>
<th>TANK</th>
<th>FAN COIL UNIT</th>
<th>PUMP</th>
<th>PIPING</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.1 m²</td>
<td>400 L</td>
<td>80W 2 Stage DC</td>
<td>0.5kW</td>
<td>SS with PUF</td>
</tr>
</tbody>
</table>

Photographs may show attachments or accessories, which may not be part of the standard scope of supply.
With our policy of constant upgradation of products, specifications are subject to change without prior notice.

Solar Collector
- Hail proof
- Efficiency of over 70%
- 10-Year limited warranty
- Protective covers

Tank
- High-pressure resistant
- SS inner lining
- PUF insulation

Fan Coil Unit
- Operates on direct current
- High heat transfer efficiency
- Temperature controlled

Accessories
- SS piping with PUF insulation
- High-heat resistant pump
- Timer for solar hour operation

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Eco-friendly energy-efficient evaporative cooling systems

Mamata YDM – a revolutionary product from Mamata Energy to cater to a wide range of climate control requirements at a fraction of the cost of conventional air conditioning.

**BENEFITS**
- Self-cleaning sprinkler system
- Double effect cooling - evaporation & venturi effect
- Lowest power consumption in its category
- Revolutionary anti-block revolving wet membrane

**FEATURES**
- Polyurethane wet membrane
- Twin filter system
- Electronic controls
- Anti-ageing composite fan
- Twin speed motor
- Limits humidity to 60% RH

**Evaporative Cooling System**

| Draft Fan Wind Flux (CFM) | 10600 |
| Wind Pressure (Pa) | 180 |
| Air Conditioner Wind Flux (CFM) | 8250 |
| Wind outlet Area (m²) | 0.49 |
| Input Power (kW) | 1.1 |
| Dimensions (L x B x H) (m) | 1 x 1 x 1.05 |
| Dry Weight (kg) | 116 |
| Supply Voltage | 415V; 50Hz |
| Cooling Volume (m³) | 750 |

In an area of 150 m² (1620 ft²) with a ceiling height of 3.2 m (12 ft), one Mamata YDM can reduce the room temperature by 12 °C (Outside RH = 30%; Dry Bulb Temperature = 42 °C)

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Solar Water Heating Systems

**BENEFITS**
- High-efficiency collectors
- Optimal performance even in low ambient temperatures
- Minimal footprint
- Low maintenance

**FEATURES**
- Revolutionary collector technology
- Stainless steel/glass lined Inner Tanks
- PUF insulation
- Application specific solutions

Solar Water Heating Systems from Mamata Energy cater to a wide range of residential, industrial and commercial hot water requirements. Capacities – 250 to 10000 liters

**Solar Water Heating Systems**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>CAPACITY</th>
<th>COLLECTOR</th>
<th>INNER TANK</th>
<th>BODY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME250HP</td>
<td>250 L</td>
<td>2.4 m²</td>
<td>SS</td>
<td>Pre-painted Steel</td>
</tr>
</tbody>
</table>

*Upto 750 liters in multiples of 250 L. 1000 liters and above will be forced circulation systems.*

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**Solar Collector**
- Hail proof
- Efficiency of over 70%
- 10-Year limited warranty
- Protective covers

**Tank**
- SS inner tank
- Glass-lined for specific applications
- PUF insulation
- Pre-painted steel shell

**Accessories**
- SS support stand
- Temperature sensor
- EasyConnect®
- Optional electric heater

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The 25TR Vapor Absorption Machine is powered by hot water generated through 98.4 kW of high efficiency heat pipe evacuated tube solar collectors. The total carpet area air-conditioned is 227 m² (2440 ft²).

**HIGHLIGHTS**

- High efficiency heat pipe evacuated tube solar collectors enable energy collection even in low ambient temperatures.
- Inverse reaction to surroundings – the solar thermal air conditioning system is a boon to temperate zones.
- Dual effect – provides heating as well as cooling.
- The system is classified under the 80% depreciation category. Wide range of capacities – 10TR+. Low payback periods of under seven years.

1. The high efficiency evacuated tube heat pipe solar collector transfers the heat from the sun to the fluid flowing in the manifold. This fluid is then transferred and stored in an energy storage tank for further use. Our solar collectors have an efficiency of over 70 percent and work very well even in low ambient temperature conditions.
2. The heat collected through the collectors is stored in the energy storage tank. Our tanks are made from mild steel with an inner stainless steel lining. We also use distilled water in this circuit to eliminate corrosion.
3. The Thermax LiBr Vapor Absorption Machine works with hot water as input and delivers chilled water at 6 - 8 °C as output. The output is directly dependant on the input – hotter the ambient, cooler the space!!
4. The cooling tower ensures heat buildup is kept in check and maintains the system within operating temperature ranges.
5. The chilled water produced by the Vapor Absorption Machine is then circulated through the heat exchangers of fan coil and air handling units to air-condition the space.
6. High-temperature resistant pumps for smooth operation even in temperatures exceeding 100 °C.