W.A.T. International GmbH

Water-Agriculture-Technology
W.A.T. International: specialized in water-agriculture-technology

- W.A.T. International GmbH, located in the middle of Germany, near Frankfurt, with its international Airport and Trade Fair, is a Trading / Import and Export Company. Due to it’s international supplier network, the Team of W.A.T. International is able to provide attractive offers within a short time and is especially engaged in executing all orders in a high-quality manner.

- Our characteristics:
  - numerous years of experience in the construction sector
  - network with international suppliers
  - independent
  - individual
  - focus on Africa and Asia countries
Mr. Christian Kociok, General Manager of the W.A.T. International GmbH, was responsible as Commercial Director for more than 20 years for a big german construction company in Libya and Asia ...

Mr. Jens Hofacker, Commercial Director of the W.A.T. International GmbH, was working as financial consultant for more than 25 years for several big international banks and investment instituts ...
## our actual offers:

1. submersible pumps
2. solar pumps
3. solar street light
4. solar air condition
5. autarkic energy production
6. generating of drinking water out of air
7. mobile housings, cold room solution
8. Joint Venture
our customers:

- **authorities**
  - water supply and water disposal
    - professional pumps
    - generators
    - steel pipes
  - streetlight
  - autarkic energy production
    - Army
    - remote areas, villages
    - mobile medical station and many more
  - desalination of seawater & water treatment plant
  - fire fighting equipment and protective clothing

- **companies**
  - mobile accommodation:
    - staff, office, sites
  - 100% solar power:
    - Irrigation farming
    - cooling equipment
    - autarkic energy production
  - construction machines
  - trucks and bus

- **private households**
  - 100% solar power:
    - air condition (cooling and heating)
  - generation of electricity
  - generation of drinking water
W.A.T. International: water supply – water disposal

pumping stations, dams, drinking water supply, water disposal

- **submersible pumps:**
  - flow rate: up to 500 liters / second (1.8 mio. liters / hour)
  - discharge head: up to 30 meters

- **diesel generators:**
  - up to 1,200 kVA

- **steel pipes**
  - coated, stainless steel
  - up to 200 cm DN
W.A.T. International: irrigated farming

**pump performance**
- different international supplier
- flow rate of 3,5,8,10 liters per second
- discharge head: < 150 meters

**system**
- 100% solar power
- independent of the power grid
- in case of using a water cistern, irrigation is assured for 24 hours per day

**application**
- irrigation farming
- water supply
- water disposal
Example calculation: 5 liters/sec – 100 M – solar pump

<table>
<thead>
<tr>
<th>No.</th>
<th>ITEM</th>
<th>Fitting &amp; Parameter</th>
<th>UNIT PRICE</th>
<th>QTY</th>
<th>Amount</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SOLAR PUMP</td>
<td>Model: WAT-18m3-100m</td>
<td></td>
<td></td>
<td></td>
<td><img src="image1.png" alt="Solar Pump" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Impeller: Centrifugal (SS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Voltage (V): AC 380V three phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pump Power (KW): 9.2KW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RATE Head &amp; Flow rate: 18m3/h-100M, 5L/S-100M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outlet: 3”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solar pump Inverter: 540V9.2KW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessory: Water level sensor,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>SOLAR PANEL</td>
<td>Solar panel power: 13.5kW(Poly 300W x 45pcs)</td>
<td></td>
<td>45</td>
<td></td>
<td><img src="image2.png" alt="Solar Panel" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Each panel power: poly 300W/36V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>size/panel: 1990<em>992</em>40mm,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>PV Array Combiner</td>
<td>Model: PVB 3/1;3way in, 1way out; Each PV array attached to DC fused protection and anti-reverse protection function. Maximum open-circuit voltage up to 1000V; High voltage Lightning protection (SPD) special for PV; PG cable glands connector input, convenient and safe system wiring; PV special high voltage circuit breaker control output; Protection class IP65 for outdoor use;</td>
<td></td>
<td></td>
<td></td>
<td><img src="image3.png" alt="PV Array Combiner" /></td>
</tr>
<tr>
<td>4</td>
<td>SOLAR PANEL FRAME</td>
<td>15pcs 300W solar panel in series</td>
<td></td>
<td></td>
<td></td>
<td><img src="image4.png" alt="Solar Panel Frame" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example calculation: 10 liters/sec – 100 M – solar pump

<table>
<thead>
<tr>
<th>No.</th>
<th>ITEM</th>
<th>Fitting &amp; Parameter</th>
<th>UNIT PRICE</th>
<th>QTY</th>
<th>Amount</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SOLAR PUMP</td>
<td>Model WAT-36m³-100m</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Impeller Centrifugal (SS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Voltage (V) AC 380V three phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pump Power (KW) 18.5KW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>RATE Head &amp; Flow rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>36m³/h-100M</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>10L/S-100M</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Outlet (IN) 4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solar pump Inverter</td>
<td>640V22KW</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Accessory Water level sensor</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>SOALR PANEL</td>
<td>Solar panel power 20.7kw (Poly 330W x 90pcs)</td>
<td></td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Each panel power</td>
<td>poly 330W/36V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>size/panel</td>
<td>1990<em>992</em>40mm,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>PV Array Combiner</td>
<td>Model PVB 5/1.5way in, 1way out</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Each PV array attached to DC fused protection and anti-reverse protection function.</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maximum open-circuit voltage up to 1000V;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High voltage Lightning protection (SPD) special for PV;</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>PG cable glands connector input, convenient and safe system wiring;</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>PV special high voltage circuit breaker control output;</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Protection class IP65 for outdoor use;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>SOLAR PANEL Frame</td>
<td>18pcs 330W solar panel in series</td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total cost
application: solar street lighting
W.A.T. International: solar street lighting

**performance**
- 2,000 – 4,300 lm
- lighting duration without sun: 10 – 14 hours
- charging time of the battery: 5-6 hours
- lifetime of ca. 50 – 100,000 hours

**system**
- compact system: All-in-one
- solar panel and LED light in one case
- or solar panel and LED light also separated cases
- 100% electricity by solar power

**application**
- street lights
- public places
- arenas
- remote areas
- etc.
Example calculation: solar street lighting

<table>
<thead>
<tr>
<th>Components</th>
<th>Photo</th>
<th>Specification</th>
<th>Q'ty</th>
<th>Unit Price (FOB)</th>
</tr>
</thead>
</table>
| All in one solar street light 15W |       | 1. LED light: 15W, USA Bridgelux LED Chip 8pcs built-in 5050 bulbs, 180lm/watt, life span >100,000hrs  
2. Solar panel: Mono 30W, life span >25years  
3. Battery: Iron Phosphate(LiFePO4) lithium, 12AH/12.8V  
Life span >8 years; more than 3500 deep-cycle times  
4. Main material: aluminum alloy  
5. Lighting time: 10-14hrs/night, 3-5 days backup  
6. Motion sensor: Yes (selectable)  
7. Charging time: 5-8hrs depends on local solar radiation  
8. Working temperature: -20°C ^+75°C | 1pcs |                  |
| Pole 5m                           |       | 5m height, Q235 steel, high wind resistance, anti-rust, hot-dip galvanized and spray plastic powder coated, with foundation kit, life-span >20 years |      |                  |
W.A.T. International: solar air condition

**Performance**
- 9,000 – 24,000 BTU
  ( = 15 - 50 m² per 1 air condition)
- Battery banks for air conditioning during the night for 4 to 12 hours
- Cooling and heating (16-30°C)

**Systeme**
- 100% solar power
- Hybride system possible:
  automatical switch of different use of neede electricity: during the day using the solar power, and during the night using grid system

**Application**
- Living / sleeping rooms
- Offices
- Medical center
- Etc.
## Example calculation: solar air condition

### DC48V 100% off grid SOLAR AIR CONDITIONER (no need extra grid adaptor)

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Cooling</th>
<th>Btu/h</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W</td>
<td></td>
<td>9000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heating</td>
<td></td>
<td>12000</td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>3500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Btu/h</td>
<td>13000</td>
<td></td>
</tr>
<tr>
<td>Work Temp.</td>
<td>°C</td>
<td>-15~60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-15~60</td>
<td></td>
</tr>
</tbody>
</table>

### Dimension

<table>
<thead>
<tr>
<th>48V DC Air Conditioner</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cooling Only</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cooling and Heating</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Solar Power System Price

<table>
<thead>
<tr>
<th>2 hours backup for no grid power time</th>
<th>Solar panel</th>
<th>Solar controller</th>
<th>Batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar panel : 150W*2pcs</td>
<td>250W*2pcs</td>
<td>24V20A</td>
<td>12V60Ah*2pcs</td>
</tr>
<tr>
<td>Solar controller: 48V20A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batteries: 12V60Ah*2pcs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Solar power System Value/USD

<table>
<thead>
<tr>
<th>Complete set including 2 hours back up solar kit for cool only</th>
<th>Solar panel</th>
<th>Solar controller</th>
<th>Batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar panel : 150W*4pcs</td>
<td>250W*4pcs</td>
<td>48V20A</td>
<td>12V80Ah*4pcs</td>
</tr>
<tr>
<td>Solar controller: 48V20A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batteries: 12V80Ah*4pcs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Example calculation: **solar air condition** (battery bank for 4 hours)

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Cooling</th>
<th>Btu/h</th>
<th>9000</th>
<th>12000</th>
<th>18000</th>
<th>24000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>W</td>
<td></td>
<td>2500</td>
<td>3500</td>
<td>5200</td>
<td>7200</td>
</tr>
<tr>
<td>Heating</td>
<td>Btu/h</td>
<td>10000</td>
<td>13000</td>
<td>20000</td>
<td>27000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>W</td>
<td>2800</td>
<td>3700</td>
<td>6000</td>
<td>7900</td>
<td></td>
</tr>
<tr>
<td>Work Temp.</td>
<td>°C</td>
<td>-15~60</td>
<td>-15~60</td>
<td>-15~60</td>
<td>-15~60</td>
<td></td>
</tr>
</tbody>
</table>

**Dimension**

48V DC Air Conditioner Price

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cooling Only</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cooling and Heating</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Solar Power System Price**

<table>
<thead>
<tr>
<th>Working time: 8 hours at day time, 4 hours at night</th>
<th>Solar panel: 150W*4pcs</th>
<th>Solar panel: 150W*6pcs</th>
<th>Solar panel: 150W*8pcs</th>
<th>Solar panel: 150W*12 pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batteries: 12V65Ah*4pcs</td>
<td>Batteries: 12V100Ah*4pcs</td>
<td>Batteries: 12V150Ah*4pcs</td>
<td>Batteries: 12V200Ah*4pcs</td>
<td></td>
</tr>
</tbody>
</table>

**Solar power System Value/USD**

<table>
<thead>
<tr>
<th>Complete set including 4 hours back up solar kit for cool only</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
W.A.T. International: energy whenever and wherever

power generation by solar – off grid and movable

Ingenious solution:

- generation of electricity, wherever and whenever needed – only by solar, wind and diesel generator. Automatic regulation

- supply of electricity out of sockets! In open fields and remote areas – independent of public grid

- if needed: 24 hours per day

- turnkey solution / quick and easy to install

- currents of 3 kW until 210 kW possible
application: energy whenever and wherever
application: energy whenever and wherever!

mobile electricity by solar power, wind and diesel generator
ready for use: whenever, wherever and continuous current supply

✓ agriculture
✓ irrigation
✓ wells
✓ construction machinery
✓ plants
✓ schools
✓ housings
✓ GSM / telecommunication stations
✓ remote villages
✓ remote sites
✓ military
✓ mobile medical station
✓ hospitals
✓ etc.
W.A.T. International: energy container

supply of electricity whenever, wherever, continuous

- the diesel generator will only start automatically in that moment, when there will be not enough produced electricity by solar and wind
- electricity out of sockets
- automatic control
W.A.T. International: energy container

energy container: mobile

transport | installation

- transport in a 20“ or 40“ container
- easy to transport – easy to install – it takes only few hours by novices
- ready to use in short time
W.A.T. International: production of drinking water

**production**
- easy to install
- sterilized by UV-light
- exchange of the filter: 1 x p.a.
- works as well inside the house

**system**
- existing of more than 100 Mio. Billions liters of water in the atmosphere
- starting to perform from 25% humidity in the air

**flow rate**
- daily flow rate:
  - 20 liters up to
  - 10,000 liters
W.A.T. International: production of drinking water
W.A.T. International: production of drinking water

relation of the flow rate and humidity
W.A.T. International: container housing

mobile and comfortable container-housing

container housing

- attractive price performance ration
- mobil
- on request incl. kitchen, bathroom, toilets, light, air condition, insulation etc.
- different versions:
  - one or multi family houses, villa
  - offices
  - staff housing
  - infirmary
  - retail shop
  - etc.
Cold room Solutions

Solar Cold Room for Frozen Meat Vegetables

Solar Cold Room is a chamber with adjusted temperature, if you store meat and seafoods, temperature will be around -20 degrees celsius. With freezer room, fruit and vegetables can be kept fresh for a long time.
Let’s achieve new heights together …
W.A.T. International: Join Venture

<table>
<thead>
<tr>
<th>the situation</th>
<th>the key for JV Partners</th>
<th>actual offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>To open new markets and gain new clients is one of the most important objectives of each company.</td>
<td>W.A.T. International and it's partner maintain direct contacts to municipal authorities and decision makers in several African countries.</td>
<td>Actually, W.A.T. International and its partners are able to offer Joint Ventures in the following sectors:</td>
</tr>
<tr>
<td>In order to meet this objective, there is usually a lengthy and extensive work indispensable.</td>
<td>The observing of all statutory requirements, the receiving of orders will be undertaken by W.A.T. International GmbH.</td>
<td>✓ photovoltaic systems</td>
</tr>
<tr>
<td>To enable cost savings, avoid costly mistakes and save a lot of time, W.A.T. International offers a Joint Venture for several African countries to qualified companies.</td>
<td>The supply of the needed products and installation will be undertaken by a Joint Venture Partner.</td>
<td>✓ solar street lights</td>
</tr>
</tbody>
</table>
Your advantages that accrued from a cooperation with W.A.T. International and their Partners:

Our management is of the firm opinion that long-term survival in the business can only be achieved and maintained through a close relationship to our customers, filled with trust and confidence and a reliable quality management.

We strengthen the relation to our customer with:

✓ Trustworthiness
✓ Full engagement of the staff
✓ Punctuality with given dates
✓ Reliable and precise suppliers
✓ Customer suited products

Please contact us for an individual offer by email:

info@wat-international.de

Thank you
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65232 Taunusstein
Germany

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Email: info@wat-international.de
Web: www.wat-international.de