



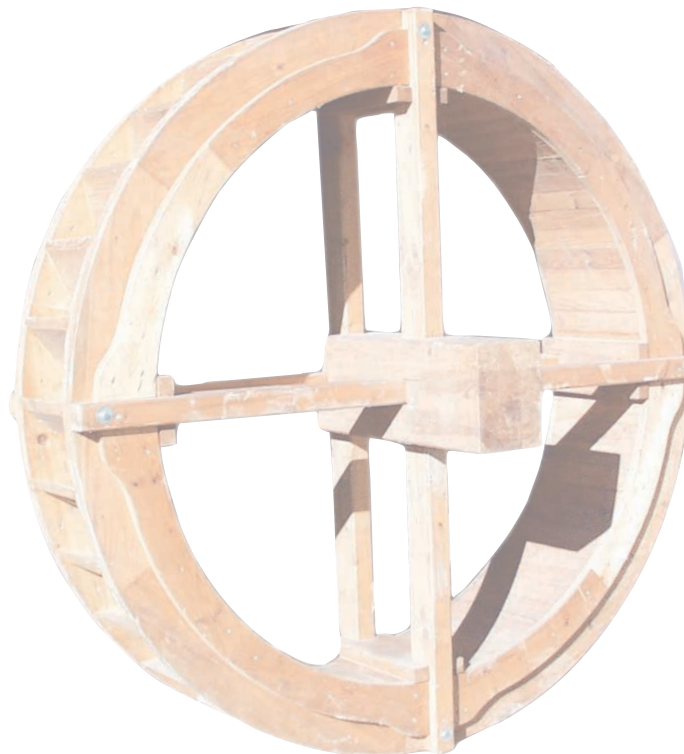
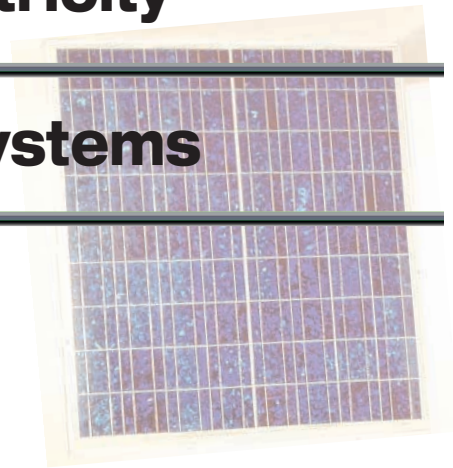
## Water Wheels



## Windmills for Pumps

## Windmills for Electricity

## Solar Systems





## Waterwheels

Waterwheels are endangered. For decades turbines have been considered the better technology.

However when there is a low power throughput, different physical laws are in effect: small turbines are highly maintenance intensive, have a very low efficiency and are too expensive.

Waterwheels are not susceptible to dirt and can be operated without a rake in front of the chute. Control and electrical connection are not complicated. The efficiency of a well tuned wheel is superior to a turbine's especially when it is driven in the partial load range.

Let us construct the perfect water wheel for you.



### Small Waterwheel

Order No. 3 000 000 178

Small waterwheel with two air compression diaphragms for the aeration of ponds. This wheel is also available without the air appliance and with a small generator.

With its flexible fittings the wheel can be connected directly to nearly any pipe.

*Technical Data:*

*Dimensions:*

*Wheel Ø:* 400 mm

*Width of wheel:* 150 mm

*Aeration capacity:* approx. 6000 l/h at water feed 1- 1.5 l/sec

### Wooden Waterwheel – small For Electric Power

Order No. 3 000 000 800

*Technical Data:*

*Dimensions:*

*Wheel Ø:* 1600 mm

*Width:* 250 mm

### Wooden Waterwheel – large For Electric Power

Order No. 3 000 000 801

*Technical Data:*

*Dimensions:*

*Wheel Ø:* 1800 mm

*Width:* 300 mm



Suspension of the wheels will be made according to your individual needs (not included)



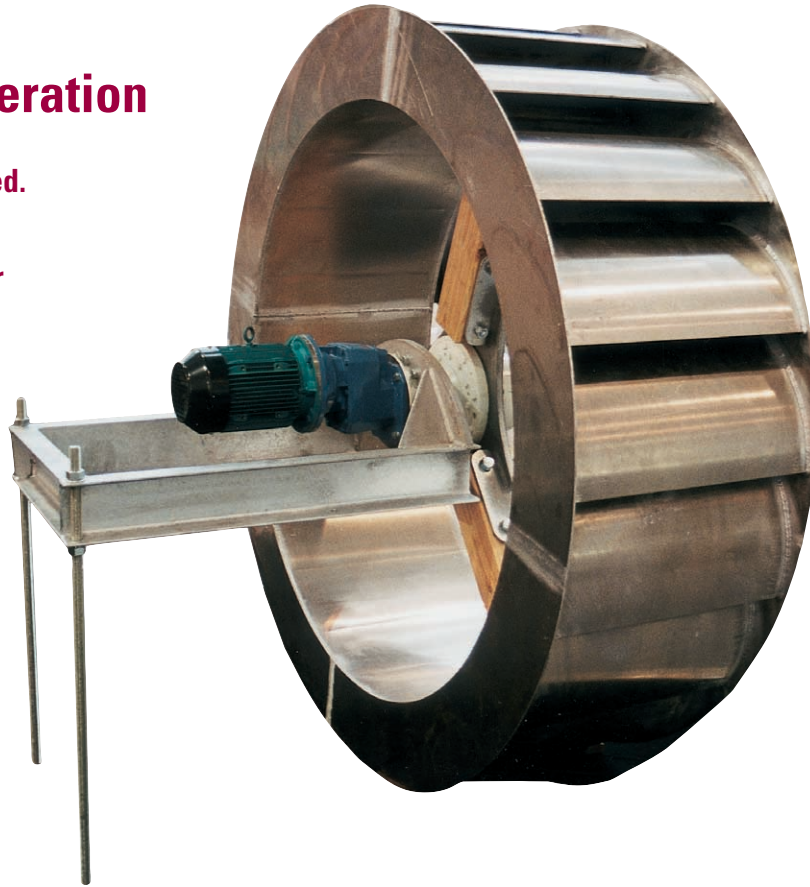
## Waterwheel for Power Generation

**Don't leave a water flow unused.**

**We offer the waterwheel with the perfect dimensions for your need including generator and electric control.**

The waterwheels are made of stainless steel or corrosion-proof aluminium according to your wish.

The waterwheels are easy to integrate into existing building through their asymmetric suspension.



Waterwheel with generator in a mill

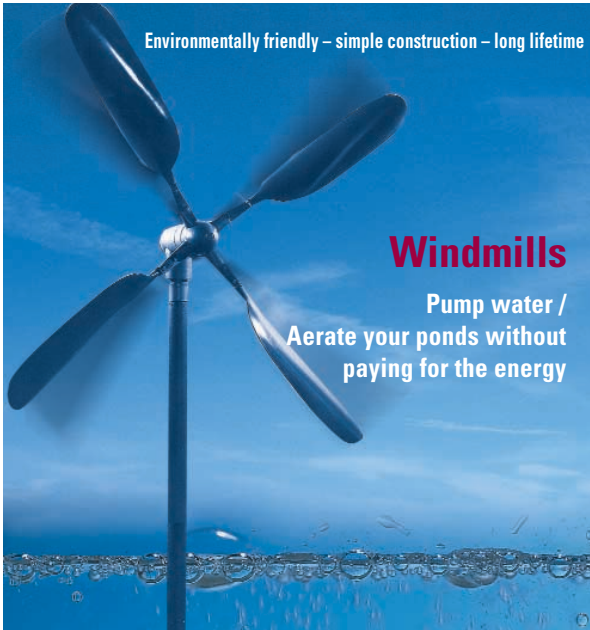
Sensible use of a natural slope.



**AGK ALTERNATIVE ENERGY**



## Windmills – the Cheap Alternative



These windmills are some of the most modern systems on the world market. Due to our 30 years of experience in this field we were able to achieve a very high efficiency of the pumps. With a rotor diameter of 1.5 m, high volumes can be pumped even at low wind speeds.

For:

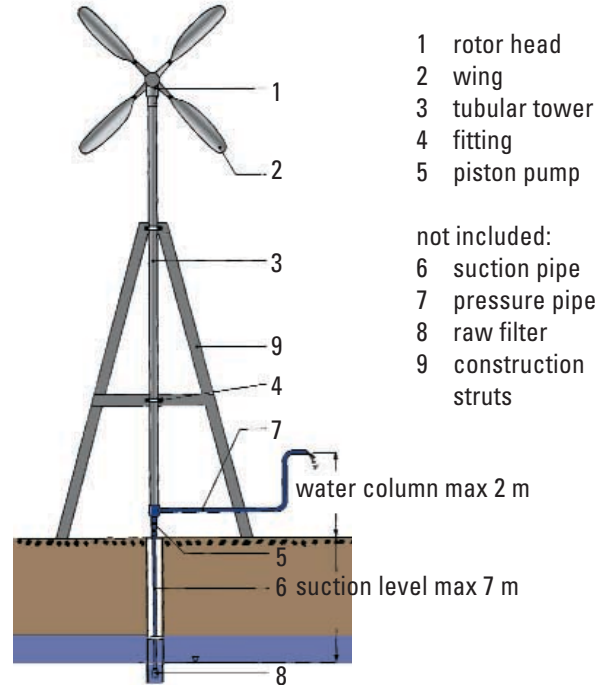
- Home water supply
- Animal water supply
- Water supply for ponds
- Circulation of fish ponds
- Garden Irrigation
- Oxygen enrichment of ponds

Advantages:

- High capacity
- Independent of electrical connections
- Maintenance-free
- Simple construction
- No further cost

## Wind-Powered Pump M 15-4

Order No. 4 473 000 108



This well proven piston pump can be used for:

- Home water supply
- Animal water supply
- Water supply for ponds
- Circulation of fish ponds
- Garden Irrigation

The windmill has four wings and a 3m tower Ø 60 mm. It is to be mounted to construction struts or a dug in pole with fittings. The piston suction pump can be mounted directly above the well or put up separately; please note that the resistance of the suction pump may not exceed a water column of 7 m.

Technical Data:

Rotor diameter 1.5 m

Wind m/sec.	3	4	5	6	7	8
Capacity l/day	3300	4400	5700	8000	10600	10600

Model

M 015-4, Weight = 35 kg

Pump capacity:

440 e/h of water at 8 m/s airspeed

Max delivery height:

9 m (7 m suction + 2 m pressure)

Connection:

R 3/4" for suction and pressure pipe

Well diameter:

min 45 mm

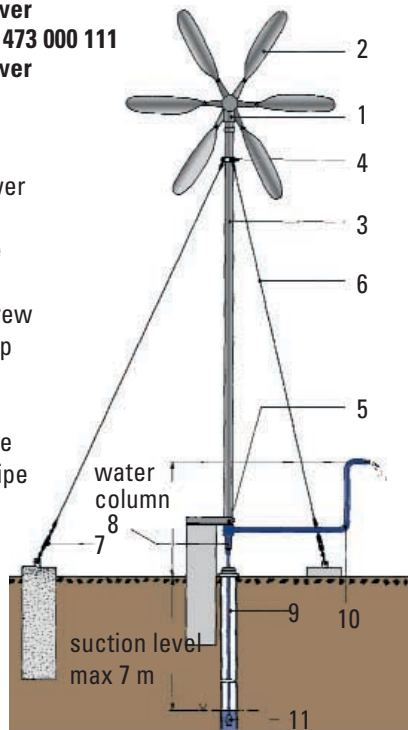


## Wind-Powered Pump M 015-6

- ① Order No. 4 473 000 109 with 3m tower
- ② Order No. 4 473 000 111 with 6m tower

- 1 rotor head
- 2 wing
- 3 tubular tower
- 4 fitting
- 5 tower base
- 6 wire
- 7 tension screw
- 8 piston pump

- not included:
- 9 suction pipe
  - 10 pressure pipe
  - 11 raw filter



This well proven piston pump can be used for:

- Home water supply
- Animal water supply
- Water supply for ponds
- Circulation of fish ponds
- Garden irrigation

The windmill has six wings and a 3 m or 6 m tower Ø 60 mm. It is held vertical through ropes (included). The piston suction pump (pump above water level) can be mounted directly above the well or put up separately; please note that the resistance of the suction pump may not exceed a water column of 7 m.

### Technical Data:

Rotor diameter 1.5 m

Wind m/sec.	3	4	5	6	7	8
Capacity l/day	5000	7800	9000	12400	14400	14400

### Type:

- ① Installation with 3 m tower = M015-6-3; Weight = 48 kg
- ② Installation with 6 m tower = M015-6-6; Weight = 62 kg

### Pump capacity:

600 l/h at 8 m/s wind velocity

### Max delivery height:

3 m tower: 9 m (7 m suction + 2 m pressure)

6 m tower: 12 m (7 m suction + 5 m pressure)

### Connection:

1" for suction and 3/4" for pressure pipe

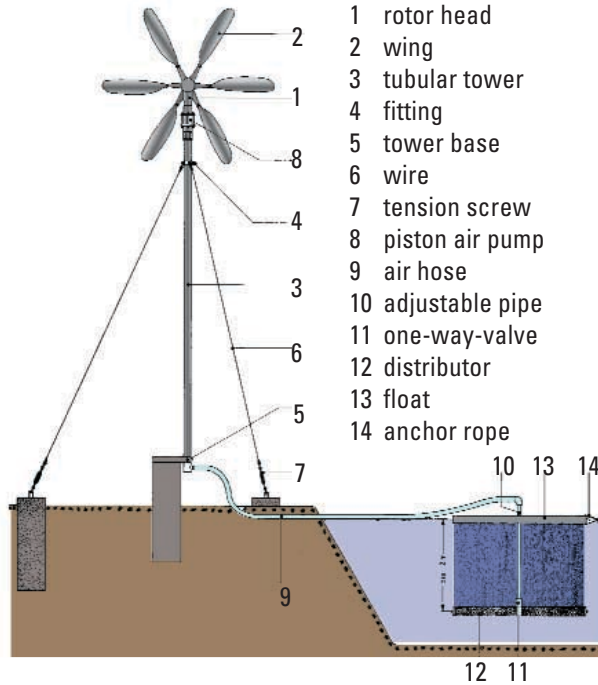
### Well diameter:

min 60 mm

## Wind-Powered Pond Aeration ML 015-6

- ① Order No. 4 473 000 110 with 3m tower
- ② Order No. 4 473 000 112 with 6m tower

- 1 rotor head
- 2 wing
- 3 tubular tower
- 4 fitting
- 5 tower base
- 6 wire
- 7 tension screw
- 8 piston air pump
- 9 air hose
- 10 adjustable pipe
- 11 one-way-valve
- 12 distributor
- 13 float
- 14 anchor rope



The wind-powered aeration system is a specially developed wind-powered air pump for the oxygen enrichment of fish ponds. It solves the oxygen problem in the summer as well as winter.

Starting at wind velocities of below 3 m/s the system starts to aerate the pond. The six-winged rotor powers a piston pump sucking air into the 60 mm tube of the tower. This tank allows a continuous air feed into the aerator. The outlet is at the base of the tower from where the air is led through the connection hose, float and adjustable pipe to the one-way valve and distributor. The adjustable pipe allows to manually vary the immersion depth of the distributor. The one-way valve connected to the distributor prevents water entering the hose and thus frost damage. The float is kept on position with the feed hose and an anchor rope.

### Technical Data:

Rotor diameter 1.5 m

Wind m/sec.	2	3	4	5	6	7	8
Capacity m³/h	0,43	0,65	0,87	1,08	1,30	1,52	1,74

This installation is available with a tower of 3 m or 6 m height. It will be erected by use of taught wires.

### Type:

- ① Installation with 3 m tower = ML 015-6-3  
Weight = 59 kg
- ② Installation with 6 m tower = ML 015-6-6  
Weight = 74 kg



## Wind Turbine WG 503

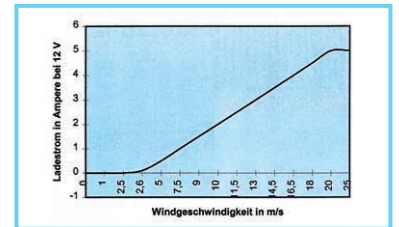
**Order No. 4 120 000 001**

Wind-powered generators are a great addition to solar systems.

The WG 503 finds its field in keeping batteries constantly charged to be able to supply high-power devices for short terms.

*Technical data:*

- safety turbine made of nylon-reinforced plastic
  - safety rim connecting the blade tips
  - smooth, quiet operation
  - batteries charged at 2.2 m/s min
  - compact turning radius 255 mm
  - rotor diameter: 510 mm
  - salt water proof
  - stainless steel mountings for 1 1/2" (31.7 mm) pole
  - maintenance-free
  - high efficiency through aerodynamic design
  - power: max 60 W; 10 m/s: 25 W
  - Weight: 3.5 Kg
  - Suitable charge controller SR 60 available (simultaneous use of a 30 W solar module possible)
- (pole not included)



## Wind Turbine WG 913

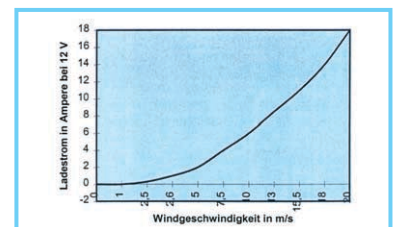
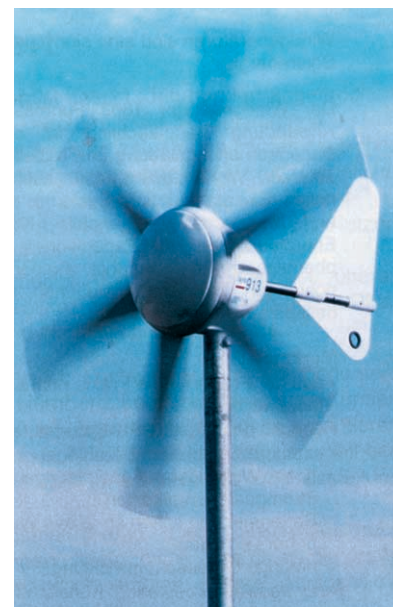
**Order No. 4 120 000 002**

Wind-powered generators are a great addition to solar systems.

The WG 913 finds its field in keeping batteries constantly charged to be able to supply high-power devices for short terms.

*Technical data:*

- Marine grade materials and stainless steel fasteners throughout
  - Computer designed aerofoil blades Ø 910 mm able to withstand a loading with a safety factor 10 x the turbine's maximum rpm
  - Thermoelectric brake against storm damage
  - Latest quiet no-friction 3 phase generator
  - Generator windings completely sealed by GRP encapsulation
  - Flywheel effect generator gives smoother output than conventional designs
  - Battery charging at 2.2 m/s min
  - No radiated interference, complies fully with EEC directive 89/336/EEC
  - Designed to be mounted on a 41 mm pole (available made of stainless steel)
  - Suitable shunt controller SR 200 available (simultaneous connection of a 60 W solar cell possible)
  - maintenance-free
  - max. power: 220 W; at 10 m/s: 72 W
  - net weight: 10.5 Kg
- (pole not included)





## Wind Generator 1803 Furimatic

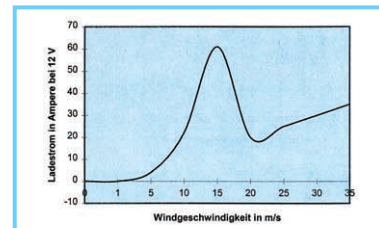
12 V – Order No. 4 120 000 003

24 V – Order No. 4 120 000 004

The wind generator Furimatic mainly serves as means to keep batteries charged, for energy independent homes and in the professional fields, for example for automatic aeration systems.

*Technical data:*

- Marine grade materials and stainless steel fasteners throughout
- Computer designed aerofoil blades Ø 1800 mm able to withstand a loading with a safety factor 10 x the turbines maximum rpm
- Thermoelectric brake against storm damage
- Latest quiet no-friction 3 phase generator
- Generator windings completely sealed by GRP encapsulation
- Flywheel effect generator gives smoother output than conventional designs
- Battery charging at 3 m/s min
- No radiated interference, complies fully with EEC directive 89/336/EEC
- Designed to be mounted on a 81 mm pole (available made of stainless steel)
- Including suitable charge controller
- maintenance-free
- max. power: 720 W; at 10 m/s: 340 W
- net weight: 38.5 Kg  
(pole not included)



AGK ALTERNATIVE ENERGY





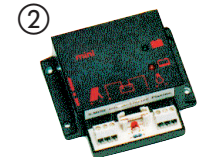
## Solar Power – the clean and quiet alternative

Take advantage of our solar systems offer. We have the components and the knowledge. Give us a call – we enjoy advising you. A detailed computer printout informs you about power, efficiency, surplus and deficiency of the planned system in whatever expansion phase.

### Solar System – 52 W

Comprising:

- **1 Solar module ① – Order No. 4 490 000 033**  
Type BC-52, 12 V, 52 W, surface 0,55 m<sup>2</sup>, efficiency 11%, reflectivity 0,2, orientation 0° i.e. 30° horizontal-inclination
- **1 Charge Controller ② – Order No. 4 490 000 040**  
Type Solsum 6.6, 12/24 V – 6/6 A  
Low discharge level 30%, increase of battery level 70%
- **1 Battery ③ – Order No. 4 490 000 035**  
Type Moll, 12 V, 60 Ah (100 h), 50 Ah (20 h), fully loaded
- **1 pair of battery connectors basic – Order No. 4 490 000 041**
- **Cable – Order No. 4 491 000 023**  
Type H07 RNF, 1 x 2,5 mm<sup>2</sup>
- **Cable – Order No. 4 491 000 024**  
Type H07 RNF, 1 x 6 mm<sup>2</sup>



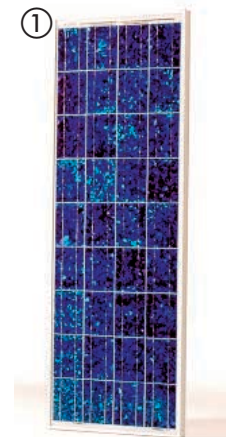
	Jan.	Feb.	March	April	Mai	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Theoretically possible: energy production Wh/d	41,7	80,3	123,5	172,6	205,3	215,3	212,4	191,0	164,2	98,5	45,4	32,1

Loss through increase of the module temperature, cable resistance, battery and controller not included in above table

### Solar System – 420 W

Comprising:

- **6 Solar module ① – Order No. 4 490 000 031**  
Type BC-80S, 12 V, 80 W, surface together 4,38 m<sup>2</sup>, efficiency 11%, reflectivity 0,2, orientation 0° i.e. 30° horizontal-inclination
- **1 Charge Controller ② – Order No. 4 490 000 045**  
Type Solarix Delta, 12/24 V – 20 A  
Low discharge level 30%, increase of battery level 70%
- **2 Battery ③ – Order No. 4 490 000 034**  
Type Moll, 12 V, 240 Ah (100 h), 200 Ah (20 h), delivery fully loaded
- **1 pair of battery connectors basic – Order No. 4 490 000 041**
- **1 Sine DC-AC inverter – Order No. 4 490 000 036**  
Type Top Class 07-24, 24 V, 700 W (see next page)
- **Cable – Order No. 4 491 000 020**  
Type H07 RNF, 1 x 4 mm<sup>2</sup>
- **Cable – Order No. 4 491 000 021**  
Type H07 RNF, 5 DH2, 1 x 10 mm<sup>2</sup>



	Jan.	Feb.	March	April	Mai	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Theoretically possible: energy production kWh/d	0,4	0,7	1,1	1,6	1,9	2,0	1,9	1,8	1,5	0,9	0,4	0,3

Loss through increase of the module temperature, cable resistance, battery and controller not included in above table

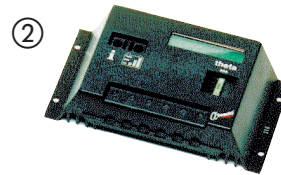
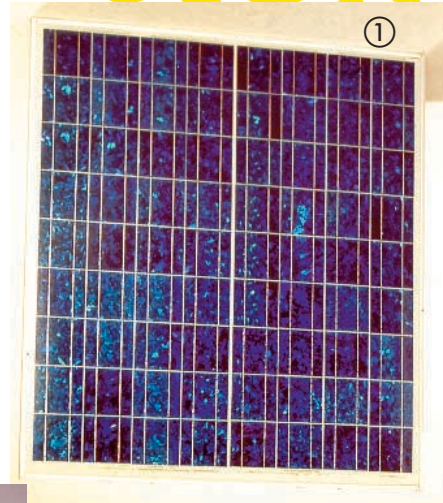




## Solar System – 720 W

### Comprising:

- **6 Solar module ① – Order No. 4 490 000 032**  
Type BC-120, 12/24 V, 120 W, surface together 6,6 m<sup>2</sup>, efficiency 11%, reflectivity 0,2  
orientation 0° i.e. 30° horizontal-inclination
- **1 Charge Controller ② – Order No. 4 490 000 038**  
Type Solarix Theta, 12/24 V - 30 A  
Low discharge level 30%, increase of battery level 70%
- **4 Battery ③ – Order No. 4 490 000 034**  
Type Moll, 12 V, 240 Ah (100 h), 200 Ah (20 h), delivery fully loaded
- **4 pair of battery connectors basic – Order No. 4 490 000 041**
- **1 Sine DC-AC inverter – Order No. 4 490 000 036**  
Type Top Class 07-24, 24 V, 700 W (see next page)
- **Cable – Order No. 4 491 000 020** ③  
Type H07 RNF, 1 x 4 mm<sup>2</sup>
- **Cable – Order No. 4 491 000 021**  
Type H07 RNF, 5 DH2, 1 x 10 mm<sup>2</sup>



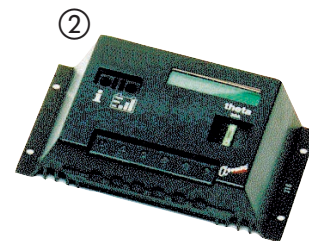
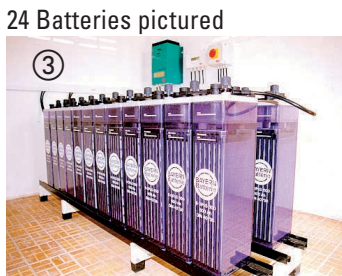
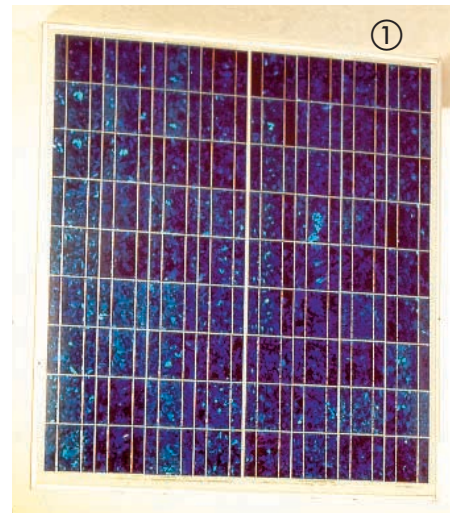
	Jan.	Feb.	March	April	Mai	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Theoretically possible: energy production KWh/d	0,6	1,1	1,7	2,4	2,8	3,0	2,9	2,6	2,3	1,3	0,6	0,5

Loss through increase of the module temperature, cable resistance, battery and controller not included in above table

## Solar System – 1440 W

### Comprising:

- **12 Solar module ① – Order No. 4 490 000 032**  
Type BC-120, 12/24 V, 120 W, surface together 13,2 m<sup>2</sup>, efficiency 11%, reflectivity 0,2  
orientation 0° i.e. 30° horizontal-inclination
- **1 Charge Controller ② – Order No. 4 490 000 038**  
Type Solarix Tharom, 12/24 V - 45 A  
Low discharge level 30%, increase of battery level 70%
- **12 Solar battery ③ – Order No. 4 490 000 042**  
Type 6 OPzS600, 2 V, 600 Ah, delivery fully loaded, incl. cell connector
- **1 Solar distributor – Order No. 4 490 000 043**  
Type PV AZ 6-1/10A for 6 module lines up 10 A with over-voltage protection  
plastic housing, IP 65, SKI 2 (see next page)
- **1 Sine DC-AC inverter – Order No. 4 490 000 044**  
Typ PV-FS-220/63, with a DC power-switch, turn-knob  
version, 220 V/63 A, plastic case, IP 65, SKI 2  
(see overleaf)
- **1 Sine Inverter – Order No. 4 490 000 037**  
Type Top Class 10-24 „Allegro”, 24 V, 1000 W  
(see next page)
- **Cable – Order No. 4 491 000 020**  
Type H07 RNF, 1 x 4 mm<sup>2</sup>
- **Cable – Order No. 4 491 000 022**  
Type H07 RNF, 1 x 16 mm<sup>2</sup>



	Jan.	Feb.	March	April	Mai	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Theoretically possible: energy production KWh/d	1,3	2,3	3,5	4,7	5,4	5,8	5,6	5,1	4,6	2,7	1,3	1,0

Loss through increase of the module temperature, cable resistance, battery and controller not included in above table



## Make AC from DC

With our inverters you can connect standard 220V household appliances to your solar system

### Sine – Inverter

For solar system 420 W and 720 W

Order No. 4 490 000 036

Type Top Class 07-24, 24 V, 700 W

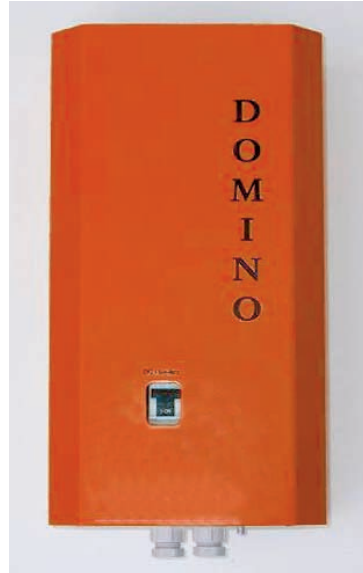


### Sine – Inverter

For solar system 1440 W

Order No. 4 490 000 037

Type Top Class 10-24 „Allegro“, 24 V, 1000 W



### Sine – Inverter

For solar system 52 W and 160 W

Can also be connected to the cigarette lighter plug in vehicles. Car connector included.

Order No. 4 440 000 003

12/24 V input, 180 W, 230 V / 50 Hz output 160W continual power, 220 W peak power. With euro-norm outlet, including adapter to connect inverter directly to the battery.



### DC Master Switch

Order No. 4 490 000 044

Type PV-FS-220/63,

With DC turn knob. 220 V / 63

A, plastic housing, IP 65,

SKI 2



### Solar Distributor

For solar system 1440 W

Order No. 4 490 000 043

Type PV AZ 6-1/10A for 6 module arrays up to 10 A with over-voltage protection plastic housing, IP 65, SKI 2

