

PERSONS

TECHNICAL SPECIFICATIONS Compact 100 | Compact 110 | Compact 150 | Compact 200

| | | | | |
|---------------------|------------------------|------------------------|-------------------------|-------------------------|
| Panel Area | 1.50m ² | 1.94 m ² | 2.38 m ² | 3.00 m ² |
| Absorber Area | 1.29 m ² | 1.72 m ² | 2.13 m ² | 2.58 m ² |
| Panel Dimensions | 1.46 x 1.03 x 0.12m | 1.98 x 0.98 x 0.12m | 1.98 x 1.20 x 0.12 m | 1.46 x 2.06 x 0.12 m |
| Height at 45° angle | 1.18 m | 1.53 m | 1.53 m | 1.53 m |
| Hot water capacity | 100 lit | 120 lit | 160 lit | 200 lit |
| Electric Resistance | 4 kw | 4 kw | 4 kw | 4 kw |
| Weight when Empty | 58 kg | 70 kg | 85 kg | 116 kg |
| Weight when Full | 155 kg | 167 kg | 226 kg | 310 kg |

| | |
|--------------------------------|-------------------------------|
| Heat Conveyor | Ethanol |
| Frost Resistance | -60°C |
| Water Reservoir Material | Stainless Steel |
| Insulation Material | Polyurethane and Mineral Wool |
| Max. Pressure in the Reservoir | 10 bar |
| Cold - Hot Water Connection | 1/2" |
| System's Installation Angle | 35° 45° |

AST's Solar panels has international certification ISO 9001:2008)





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A.S.T.
SOLAR INDUSTRY
ADVANCED SOLAR TECHNOLOGY

A.S.T.
SOLAR INDUSTRY

Economic
Efficient & Stylish
Solar Energy

- High performance
- Extreme frost resistance
(up to -60°C)
- Doesn't require additional antifreeze
or replacement



COMPACT 110-150

A.S.T. presents the Compact Solar Panel System with its unique Quality and Performance features.

Compact is the result of years of research by A.S.T.'s research staff, working closely with international centers, in order to incorporate the following latest technologies:

- A) Air Vacuum
- B) LASER welding and
- C) Compact Natural Circulation Solar Systems, which means that the Solar Panel and the Boiler form a single unit.

ADVANTAGES

1. Stainless **Steel Boiler (INOX316L.)**
2. **Selective High-Performance Panels.**
3. **Copper Absorber & Tubing.**
4. Unit operation in an **Air Vacuum.**
5. **LASER** Welding of the Absorber's Copper Tubing.
6. Heat transfer with **Ethyl Alcohol**, which evaporates quickly due to its low boiling point.
7. **Unbreakable Crystal (SECURIT).**
8. Very fast performance, even in low sunlight, due to the system's low control inertia.
9. **Heat exchanger** built into the Boiler, which immediately returns the steam energy from the Ethyl Alcohol.
10. Maximum productivity in warm water in the minimum amount of time.
11. Minimal heat loss due to the system's compact design.
12. Pioneering Construction and Stylish Design.
13. Space & piping efficiency
14. Excellent Energy Characteristics and Uninterrupted Performance throughout the years.
15. Extreme frost resistance (up to -60°C)
16. Doesn't require additional antifreeze or replacement.
17. Installation can be expanded, depending on the requirements.
18. Easy installation.

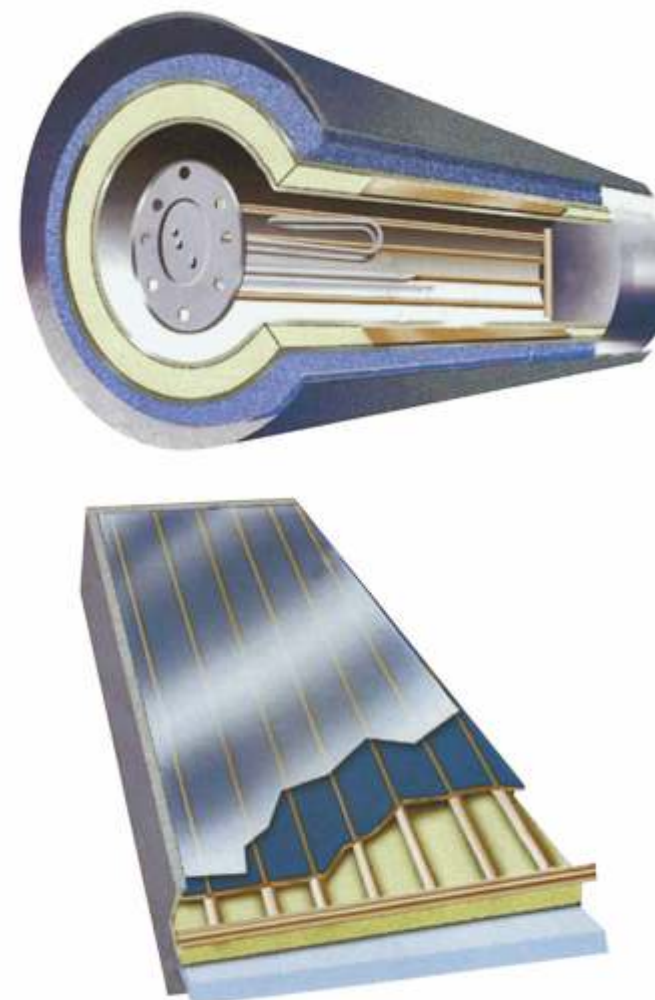
19. Guaranteed Return of Investment
20. High Thermal Capacity
21. Prevents Nighttime Flow Reversal



MODE OF OPERATION

The COMPACT Thermal System's copper tubing is welded using LASER technology, which dramatically increases the thermal capacity of the entire system. Next, Ethyl Alcohol is injected into the Copper Tubing, which is sealed in an Air Vacuum. Solar energy heats the Ethyl Alcohol, which in turn evaporates easily due to its low boiling point.

The steam *which* is produced (through the Air Vacuum Piping), is channeled directly into the Exchanger in the Boiler, transferring the heat that it conveys. This way, the steam is vaporized and then returns to the Panels due to its gravity



ECONOMY - ENVIRONMENT

- Savings of 1,200 - 1,800 KWh annually.
- The perfect solution for a family's hot water needs.
- Emissions reduction of at least 2 tons Co2 annually

RESULTS

- High Water Temperatures (Stagnation temperature 180°C) even in difficult weather conditions
- World-wide Leading Performance Curve (according to measurements).

STAINLESS STEEL BOILER

1. Stainless Steel Boiler (INOX316L), Glass 3mm or galvanized internal lamination
2. Heat exchanger of the same metal with the boiler to prevent corrosion salts
3. The Boiler's insulation is a combination of 30mm thick Polyurethane (environment-friendly) with a density of 40Kg/m3 and 30mm thick fiberglass.
4. Reinforced Propylene Boiler Casing.
5. 4KW Special Alloy INCOLOY 825 Electric Resistance (resistant to water with a high chlorine concentration).
6. **Sacrificial** Protection.

SELECTIVE PANELS

1. Specially designed **Aluminum Profile Frame.**
2. **Special Unbreakable Glass (SECURIT)** with **92% Permeability (LOW IRON, TEMPERED)** and **Resistance to temperatures and Pressures up to Six (6) times greater** than common crystal (which has a permeability of only 85%).
3. **Absorber** with a **Selective Aluminum Plate**, welded to **Copper Tubing** using LASER technology, for optimal **Heat Conductivity.**
4. Copper Tubing $\Phi 22 \times 0,8$ mm and $\Phi 8 \times 0,5$ mm.
5. Free of **Freon Polyurethane Insulation.**
6. **Mineral Wool Insulation.**

Panel **Sealing** is accomplished through the use of **Special Elastic Type EPDMs**, which are highly resistant to Ultraviolet Radiation and High temperatures

