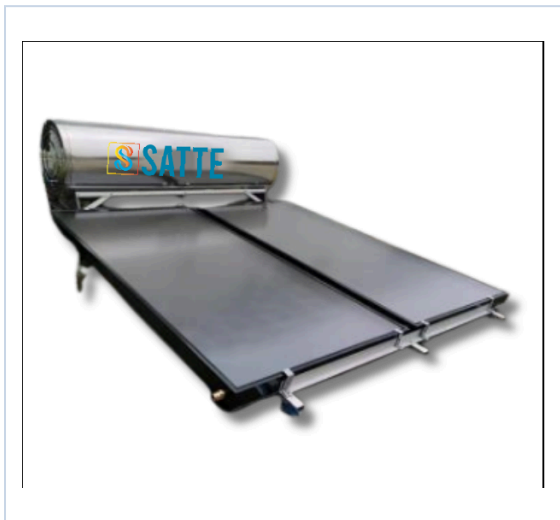
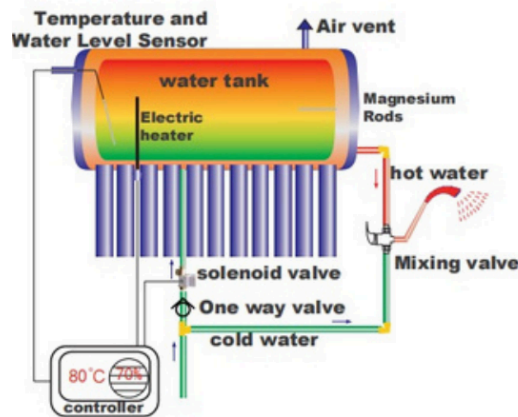


SCT Flat Plate Solar Water Heaters

Integrated thermosiphon system with horizontal storage tank, one or two flat plate collectors and galvanised support frame. Available with direct (open-loop) or indirect (closed-loop, heat-exchanger jacket) tank.



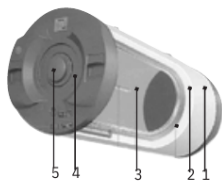
Controller
TK-7Y intelligent controller
(optional)



System schematic with electric backup

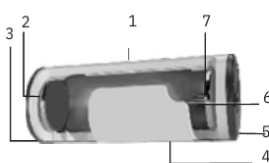
Construction

Direct tank



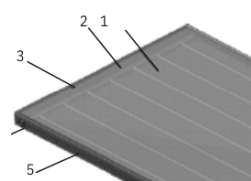
1. Steel outer casing, electrostatic powder-coated and baked at 220 °C for UV and weather resistance
2. Direct-injected, CFC-free polyurethane foam
3. Insulation thickness 40 mm
4. Stainless steel hot water tank (SUS304), 6 bar
5. UV-resistant plastic end cap
6. Electric backup heater

Indirect tank



1. Direct-injected, CFC-free polyurethane foam, 50 mm
2. Heat-exchanger jacket
3. Enamelled low-carbon steel hot water tank, 4 bar
4. Steel outer casing, powder-coated and baked at 220 °C
5. Steel powder-coated end caps
6. Electric backup heater
7. Magnesium anode rod, cathodic protection

Flat plate collector



1. Selective-coated absorber plate
2. Low-iron high-transmittance tempered glass
3. Polyester fibre insulation
4. EPDM sealing gasket
5. 6063 aluminium alloy frame

Typical applications

- **Residential** — homes and apartments; replaces electric geysers, cutting water-heating electricity by 60-80 %
- **Hospitality** — hotels, lodges and resorts; units can be manifolded for guest wings
- **Education** — schools and university hostels, dormitory shower blocks
- **Healthcare** — hospitals and clinics; reliable 60 °C storage for sanitation
- **Commercial** — offices, retail, gyms and wellness centres
- **Off-grid** — remote sites and cabins; no electricity needed for solar operation
- **Agriculture** — dairy, poultry and greenhouse washdown water
- **Community** — recreation centres, emergency shelters, large residential complexes

Options & accessories: TK-7Y intelligent controller 1.5 / 2 kW element Magnesium anode 6 bar safety valve
Check valve Copper connectors Flat / pitched roof brackets

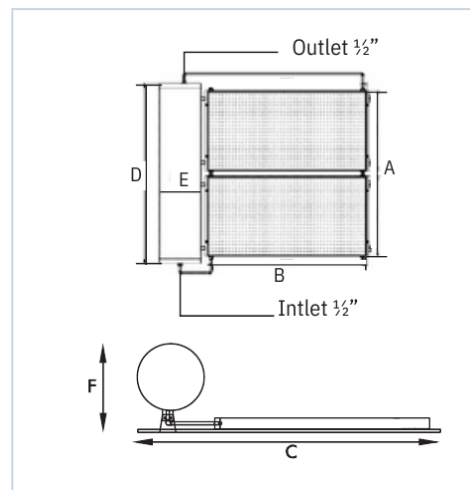
SCT Technical data

Model	SCT 150	SCT 200	SCT 300
System storage capacity	150 L	200 L	300 L
Typical household	up to 5 people	up to 7 people	up to 10 people
Flat plate collectors	1 × FCP 2.0	1 × FCP 2.4	2 × FCP 2.0
Collector gross area	2.0 m ²	2.4 m ²	4.0 m ²
Collector panel size L × W × H	2000 × 1060 × 80 mm	2000 × 1310 × 80 mm	2 × (2000 × 1060 × 80 mm)
Collector weight	32 kg	38 kg	64 kg
Collector fluid content	12 L	15 L	24 L
Indicative heat output — high season (6.0 kWh/m²/day)	11.0 kWh/day	14.3 kWh/day	22.3 kWh/day
Indicative heat output — low season (4.0 kWh/m²/day)	7.4 kWh/day	9.6 kWh/day	14.9 kWh/day
Hot water delivery temperature	45–90 °C (fit a thermostatic mixing valve — see Sheet 3)		
Max. operating pressure	Direct tank 6 bar · Indirect tank 4 bar		
Max. operating temperature	150 °C (collector stagnation)		
Max. flow rate	2 m ³ /h		
Connections	Inlet ½" BSP · Outlet ½" BSP		
Frame angle	27° (bracket for flat or pitched roof)		
Backup heater	1.5 kW or 2.0 kW, 230 V, with TK-7Y controller (optional)		
Ambient / wind	–5 °C to +50 °C · frame rated 130 km/h when anchored per manual		

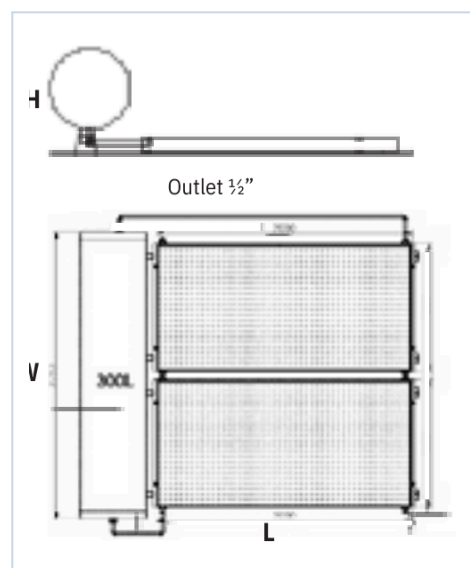
Dimensions (mm) — see drawing

A — system width	1000	1400	2100
B — collector length	2000		
C — overall length incl. frame	2600		
D — tank length	1170	1480	2300
E — tank diameter	520		
F — height at tank	620		
Weights			
Empty weight	65 kg	75 kg	105 kg
Operating weight (filled)	215 kg	275 kg	405 kg

Heat output is indicative, based on 6.0 kWh/m²/day (Sept–Mar) and 4.0 kWh/m²/day (Jun–Jul).



Dimension reference A–F



SCT 300 with two collectors

SCT Water quality, installation, standards & warranty

Water quality limits

Feed water outside these limits must be pre-treated (softener or filter). Warranty is conditional on compliance.

Parameter	Limit	Why it matters
Clarity / suspended solids	Clear, < 5 NTU	Sediment blocks collector risers
Total dissolved solids (TDS)	< 600 mg/L	Accelerates corrosion
Hardness (as CaCO ₃)	< 200 mg/L	Scale blocks absorber and element
Langelier Saturation Index	> 0.8	Aggressive water: use indirect system
pH	6.5 – 8.5	Protects enamel and stainless surfaces
Chlorides	< 100 mg/L (stainless tank)	Pitting of SUS304; use enamelled tank if higher

Installation requirements

- **Orientation:** collector facing the equator; the 27° frame is suitable across East Africa and aids self-cleaning
- **Structure:** roof or slab must carry the filled weight (up to 405 kg) plus wind uplift; anchor to structure per local wind-load code
- **Shading:** none between 09:00 and 15:00 all year
- **Pipework:** insulate hot pipe (≥ 13 mm closed-cell); keep the run to the first outlet short
- **Safety devices (mandatory):** temperature & pressure relief valve (6 bar / 99 °C), check valve on cold feed, isolating valves, drain point, thermostatic mixing valve set to 50 °C
- **Electrical backup:** dedicated circuit, 16 A MCB, 30 mA RCD, earthed per IEC 60364; switch via TK-7Y controller
- **Legionella / scald safety:** store at ≥ 60 °C at least once daily (WHO / EN 806-2); deliver at ≤ 50 °C via thermostatic mixing valve (EN 1111 / EN 1287), ≤ 43 °C for children, elderly and hospitals

Maintenance schedule

Interval	Task
3 months	Rinse collector glass; check for leaks and loose fixings
6 months	Operate relief valve; check controller settings and RCD
12 months	Flush tank sediment; inspect insulation, element and thermostat
2–3 years	Replace magnesium anode (indirect tank); descale in hard-water areas

Warranty

Stainless direct tank	5 years
Enamelled indirect tank	3 years
Collector and frame	5 years
Element, valves, anode, controller	12–24 months

Standards & compliance

- **ISO 9806:2017** — solar thermal collectors: test methods
- **ISO 9459-2 / -5** — domestic solar water heating system performance
- **EN 12976-1/-2** — factory-made solar thermal systems
- **EN 12897** — indirectly heated unvented storage water heaters
- **IEC 60335-2-21** — safety of electric storage water heaters
- **Solar Keymark / SRCC OG-100** — collector certification schemes
- **ISO 9001:2015** — quality management system
- **UNBS US EAS 428** — East African standard for solar water heating systems

Certificate numbers are supplied with the product documentation and on request. SATTE reserves the right to change specifications without notice.