

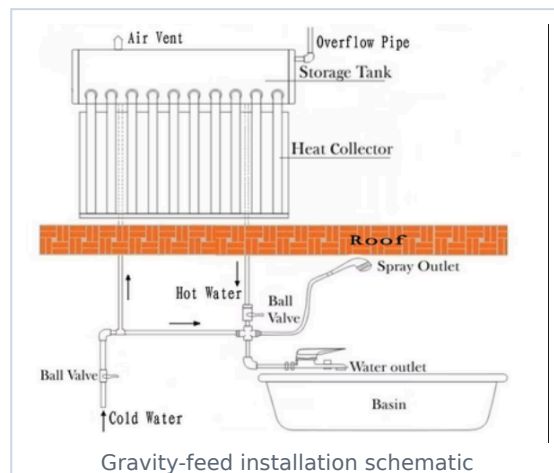
SCTT Evacuated Tube Solar Water Heaters

Non-pressurised (gravity-feed) integrated system with Ø58 × 1800 mm borosilicate vacuum tubes inserted directly into the storage tank. Highest efficiency in overcast conditions; suited to highland sites and rural installations without mains pressure.



Controller

TK-7 controller (optional)



Parts & specification

- **Inner storage tank:** food-grade stainless steel SUS304, 0.4 mm
- **Tank exterior shell:** white pre-painted colour steel, 0.4 mm
- **Heat insulation:** 50 mm high-density polyurethane foam, 72–80 h heat retention
- **Vacuum tubes:** borosilicate glass 3.3, Ø58 × 1800 mm; three-target AL/AL-ALN or Cu-SS-ALN/AIN selective coating; hail resistant to 25 mm
- **Bracket:** hot-dip galvanised steel 1.5 mm; universal bracket for pitched and flat roofs
- **Seals:** anti-ageing silicone tube gaskets, dust-proof rubber seals, plastic air-vent cap
- **Fixings:** stainless steel bolts and nuts
- **Optional devices:** auxiliary feed tank, 1.5 kW electric heater, TK-7 intelligent controller with solenoid fill valve, magnesium anode bar

Operating conditions

- **Design pressure:** 0.5 bar — non-pressurised; never connect directly to mains pressure
- **Hot water output:** 45–95 °C (fit a thermostatic mixing valve)
- **Bracket angle:** 20°–50°
- **Ambient:** –10 °C to +50 °C; tubes tolerate frost, exposed pipework must be insulated or trace-heated
- **Water quality:** TDS < 600 mg/L, hardness < 200 mg/L, pH 6.5–8.5; pre-treat otherwise

Typical applications

- **Residential** — daily household hot water for bathing and washing
- **Commercial buildings** — offices, hotels and apartment complexes
- **Industrial** — cleaning, processing and other process hot water
- **Schools and universities** — dormitories and cafeterias
- **Healthcare** — sanitation and hygiene in hospitals and clinics
- **Rural areas** — off-grid water heating in remote regions
- **Swimming pools** — pool water heating in cooler climates
- **Restaurants and cafeterias** — cooking, dishwashing and cleaning
- **Agriculture** — dairy farms, livestock care and crop processing
- **Hotels and resorts** — consistent guest hot water availability
- **Gyms and wellness centres** — showers and spa facilities
- **Emergency shelters** — sustainable hot water for disaster relief

SCTT **Technical data, installation, standards & warranty**

Technical data

Model	Solar vacuum tube		Effective aperture area	Water tank capacity	Total capacity (tank + tubes)	Insulation	Typical household
	Quantity	Size					
SCTT 190	18	Ø58 × 1800 mm	1.70 m ²	152.6 L	200.1 L	50 mm	up to 5 people
SCTT 374	36	Ø58 × 1800 mm	3.39 m ²	299.1 L	394.1 L	50 mm	up to 10 people

Tube glass / coating	Borosilicate 3.3, wall 1.6 mm; selective coating absorptance ≥ 0.92, emittance ≤ 0.08
Design pressure	0.5 bar — gravity feed via header tank or TK-7 controlled solenoid fill
Connections	Inlet / outlet ¾" BSP, overflow ¾" BSP, air vent on tank
Frame tilt range	20°–50° (20°–25° recommended in East Africa)
Backup heater (optional)	1.5 kW, 230 V, controlled by TK-7 with dry-run protection

Installation notes

- Tank outlet must be at least 1.5 m above the highest shower head for adequate gravity flow; add a booster pump (via TK-7) where this cannot be achieved
- Never leave the tank empty in sunshine — dry tubes exceed 200 °C and crack on filling. Fill before dawn or after sunset, or cover tubes
- Face the collector toward the equator with no shading between 09:00 and 15:00
- Electric backup on a dedicated circuit with 16 A MCB and 30 mA RCD, earthed per IEC 60364
- Store at ≥ 60 °C at least once daily (WHO / EN 806-2 Legionella guidance); deliver at ≤ 50 °C through a thermostatic mixing valve

Maintenance schedule

Interval	Task
3 months	Rinse tubes with clean water; check gaskets and overflow
6 months	Check controller settings, solenoid filter and RCD
12 months	Flush tank sediment; inspect tube seals and pipe insulation
2–3 years	Replace magnesium anode if fitted; descale in hard-water areas

Warranty

Stainless inner tank	5 years
Vacuum tubes	3 years (excluding breakage)
Frame and shell	5 years
Element, valves, controller	12 months

Standards & compliance

- **ISO 9806:2017** — solar thermal collectors: thermal performance and durability
- **ISO 9459-2** — domestic solar water heating system performance
- **EN 12976-1/-2** — factory-made solar thermal systems
- **IEC 60335-2-21** — electrical safety of backup heating element
- **ISO 9001:2015** — quality management system
- **UNBS US EAS 428** — East African standard for solar water heating systems