

SOLAR + ELECTRIC GEYSER (HYBRID)

By Limitless Solutions – Powering Hot Water with the Sun



PRODUCT PROFILE

2025

PROMISES KEPT, POWER
DELIVERED.

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About Us

Limitless Solutions, established in 2005, is a premier EPC (Engineering, Procurement, and Construction) company headquartered in Karachi, Pakistan, delivering comprehensive electrical and solar energy solutions across industrial, commercial, and residential sectors.

With over 22 MW of cumulative project experience—including more than 12+ MWp in solar power installations—Limitless Solutions stands at the forefront of Pakistan’s energy transformation. We specialize in turnkey solar construction, electrical infrastructure development, and solar operations and maintenance (O&M) through our dedicated sister brand True Energie. Expanding our innovation in renewable energy, we also design and install solar thermal geyser systems for both residential and industrial applications, providing sustainable hot water solutions that reduce dependency on gas and electricity.

Our solutions are engineered for longevity, sustainability, and reliability, enabling clients to meet their energy needs while drastically reducing their carbon footprint—offsetting more than 180,000 tons of CO₂ emissions, equivalent to planting 380,000 trees annually.



Affordable



Reliable



Committed



Why Choose Us

Why Us



Limitless Solutions brings unmatched expertise with 80,000+ man-hours in engineering design and 120,000+ man-hours in skilled installations. We specialize in PEPPRA-compliant tender documentation for private, semi-government, and government bodies.

Our systems come with a 1-year workmanship warranty, backed by continuous R&D and certified testing equipment. Every design is reviewed by senior engineers, ensuring quality, safety, and timely delivery – on budget, every time.

Our Team



Our team combines deep technical knowledge with hands-on experience – from design engineers to field technicians. Each project is backed by rigorous internal reviews, continuous training, and a commitment to excellence.

We pride ourselves on delivering safe, precise, and reliable solutions, driven by a team that believes in doing it right the first time.

Introduction



The Limitless Solutions Solar Thermal Geyser is a next-generation hybrid system that combines solar and electric heating for uninterrupted hot water throughout the year. Designed for residential, commercial, and industrial applications, the system efficiently converts solar energy into usable heat while providing automatic backup heating through an intelligent electric element for cloudy or low-radiation days.

Built using high-efficiency solar collectors, food-grade storage tanks, and corrosion-resistant materials, our geysers are engineered for maximum durability, safety, and thermal performance. Each system is optimized to minimize electricity consumption and reduce operational costs – delivering up to 70% savings compared to conventional heating systems.

Whether for homes, hostels, hospitals, schools, or industries, Limitless Solutions provides cost-effective, eco-friendly, and low-maintenance hot water solutions that ensure consistent performance and long-term savings.

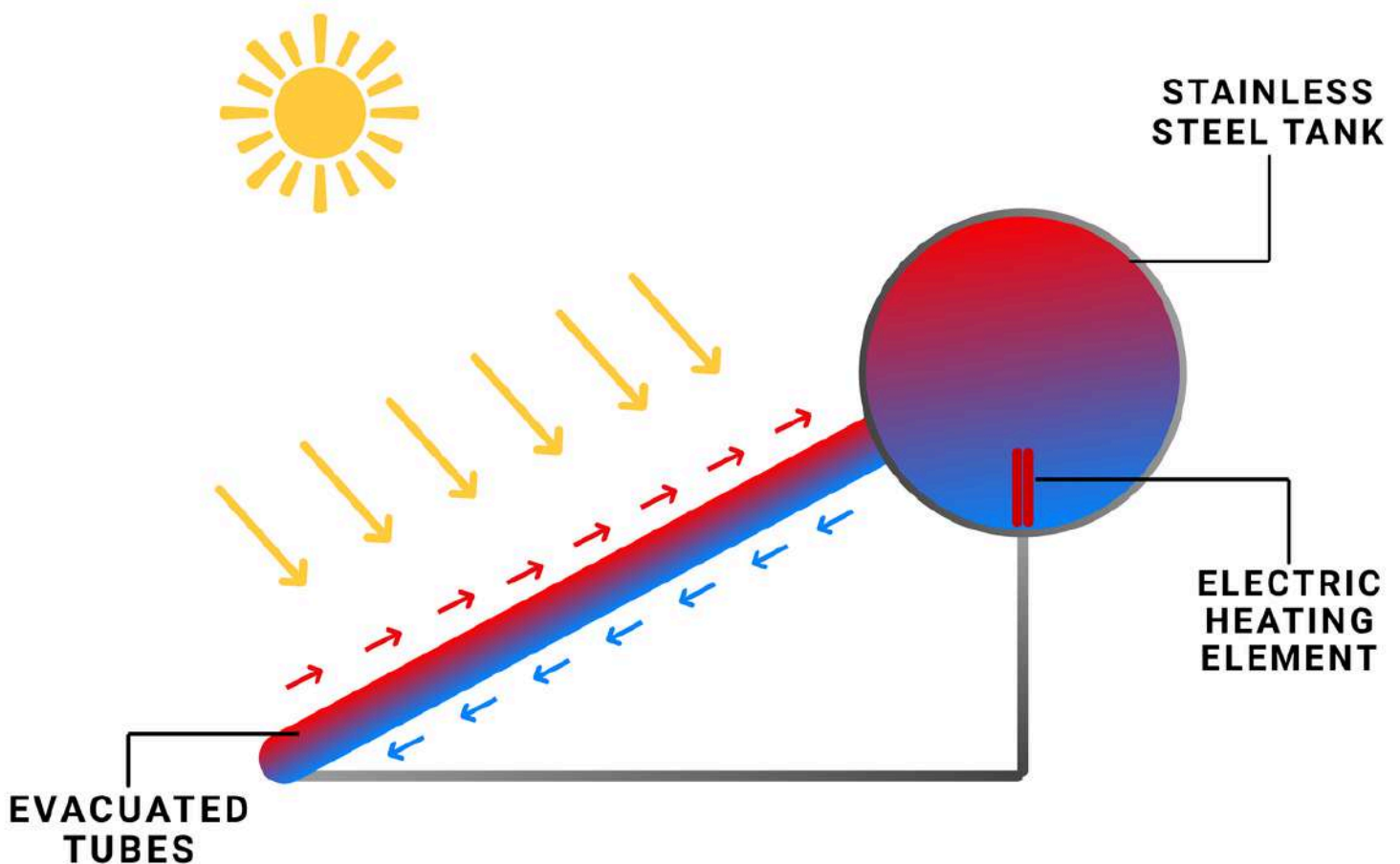
Our systems are ideal for factories requiring preheated process water, laundries and hotels needing high-volume hot water, swimming pools, restaurants, canteens, and educational or healthcare institutions where energy efficiency and reliability are crucial. By replacing traditional gas or electric water heating, our solar thermal systems help reduce operating costs, lower carbon emissions, and enhance sustainability performance across all sectors.

System Overview

Our All-Stainless Steel Solar + Electric Hybrid Geyser is built for durability, longevity, and maximum thermal efficiency. The system utilizes evacuated tube collectors to absorb solar energy and convert it into usable heat, even under low sunlight conditions. This heat is stored in a high-insulated stainless steel tank, ensuring minimal heat loss and reliable hot water availability for bathing, washing, cleaning, and industrial processes.

Even during cloudy days or nighttime, the built-in 2000W electric element automatically activates through the digital smart controller, ensuring uninterrupted heating and precise temperature regulation.

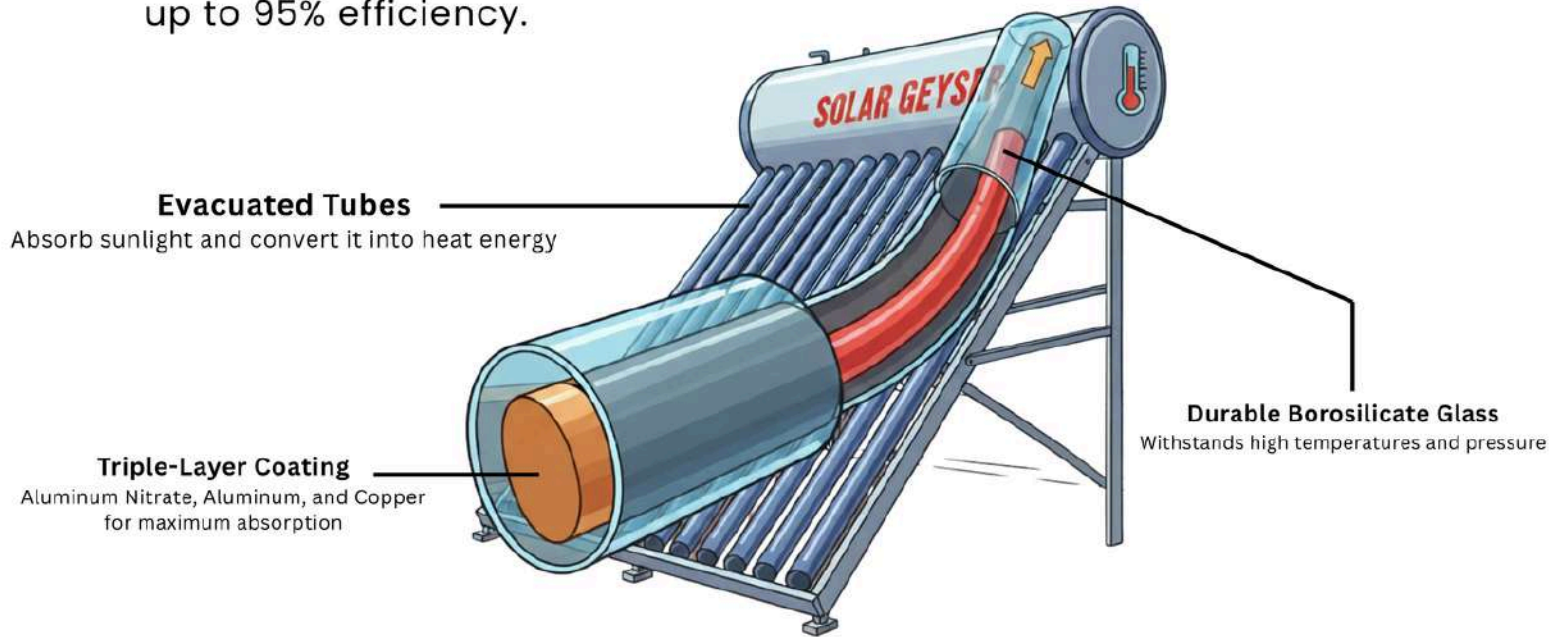
With its corrosion-resistant design, pressure safety controls, and low-maintenance operation, this hybrid geyser is engineered to deliver consistent performance, reduced energy costs, and long service life—making it an ideal solution for homes, hotels, hospitals, schools, and manufacturing facilities alike.



How It Works

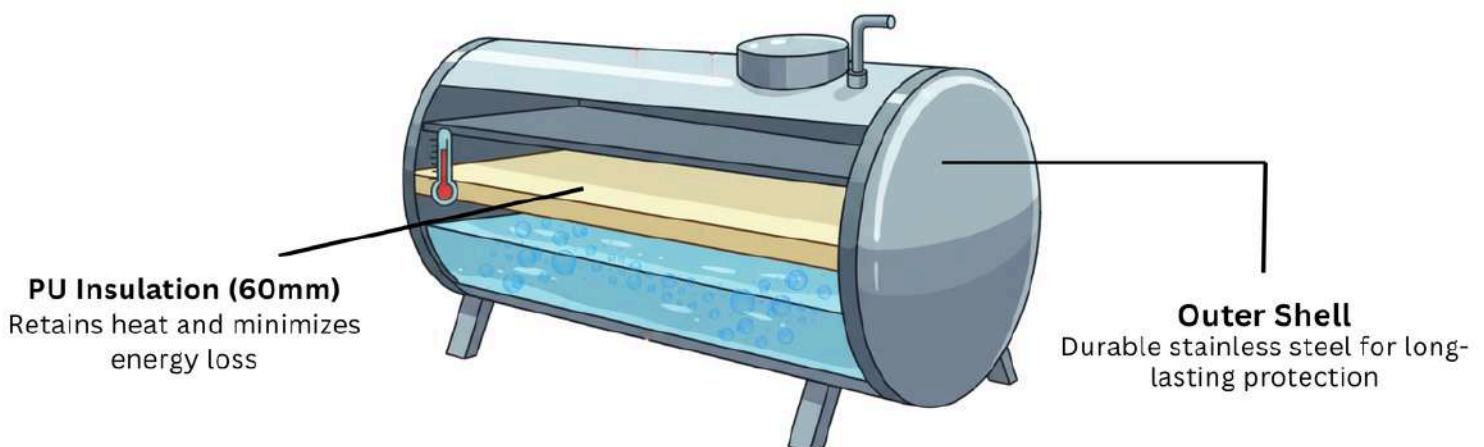
1- Evacuated Tubes – Efficient Heat Absorption

- Each tube absorbs solar radiation and converts it into heat energy.
- Triple-layer coating of Aluminum Nitrate, Aluminum, and Copper maximizes absorption and prevents degradation.
- The vacuum between the glass layers minimizes heat loss, ensuring up to 95% efficiency.



2- Water Tank – Reliable Heat Storage

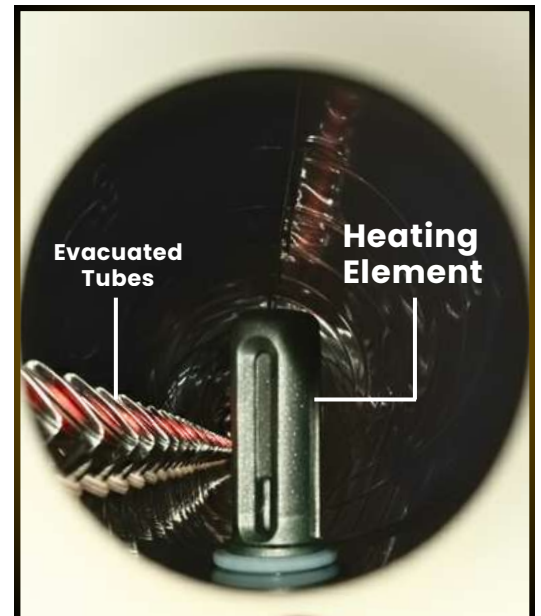
- Inner Tank: Made of food-grade stainless steel with 60mm polyurethane insulation for heat retention.
- Outer Tank: High-quality stainless steel shell for protection and longevity.
- Maintains water temperature overnight with minimal heat loss.



Hybrid Functionality

When sunlight is limited, the integrated 2000W electric heating element automatically activates, maintaining your desired temperature.

- Heats water by 12°C per hour using only 2 units of electricity.
- Fully controlled by a smart digital controller or via the mobile app for remote access.
- Ensures zero downtime, even during cloudy weather or power variations.



Inside Water Tank

Smart IoT-Based Controller & Mobile App

The controller acts as the brain of the geyser system, offering real-time monitoring and automation.

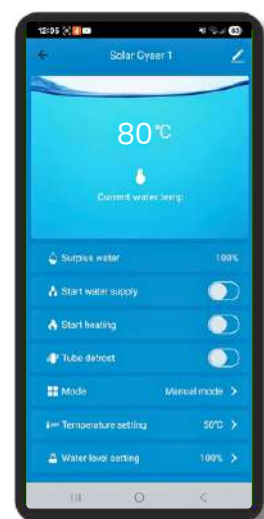
Key Features:

- Temperature & water level sensors
- Manual, timed, and intelligent operation modes
- Water overflow and dry-run protection
- Power failure memory
- Mobile app for remote access and scheduling

With the App, users can monitor, control, and optimize their geyser performance anytime, anywhere.



Smart Digital Controller



Mobile App

Technical specifications

Component	Details
Tank Capacity	200L, 300L (Expandable by combining multiple units)
Tank Material	Stainless Steel 304 (Inner & Outer)
Insulation	60mm Polyurethane foam
Vacuum Tube	58mm diameter, 1800mm length, 93–95% efficiency
Electric Backup	2000W stainless steel heating element
Frame	Galvanized Iron (45° angle, anti-corrosion)
Controller	IoT Digital with App Control
Lifespan	10+ years

Available Models & Sizing Guide

Size	Sizing Guide
200 Liters	Suitable for families of 4–5 or small businesses
300 Liters	Perfect for large households, hostels, and industrial use
Multiple 300L units can be connected for large-scale hot water demand in factories, hospitals, and commercial facilities.	

Advantages of Solar Thermal Systems by Limitless Solutions



- **Zero Dependency on Gas:** Significantly reduce fuel and electricity costs with solar energy.
- **24/7 Hot Water Supply:** Solar-powered during the day, automatic electric backup at night for uninterrupted use.
- **Smart Control System:** Manage and monitor temperature, timing, and performance via mobile app and digital controller.
- **Eco-Friendly Technology:** Harness renewable solar power to reduce carbon emissions and promote sustainability.
- **Low Maintenance & Long Lifespan:** Built for 10–20 years of efficient operation with minimal servicing required.
- **All-Stainless Steel Construction:** Corrosion- and scale-resistant body ensures long-term reliability.
- **Rapid Heating Performance:** Designed and tested for industrial-grade thermal efficiency.
- **Comprehensive After-Sales Support:** Our dedicated service team is always available for on-site or remote assistance.
- **Spare Parts Availability:** Genuine replacement parts are always in stock to ensure continuous operation.
- **Professional Installation Standards:** Each system is installed following international safety and performance guidelines.
- **Expert Installation by Certified Engineers:** Each system is installed and tested by experienced professionals ensuring safety, performance, and compliance.
- **Quality Assurance & Warranty:** Every project is backed by a 1-year workmanship warranty and internal quality checks.
- **End-to-End Service:** From design and supply to commissioning and maintenance, Limitless Solutions handles it all—ensuring you get a complete, worry-free experience.

Limitless Solutions for Every Hot Water Demand

Educational Institutions:

Perfect for schools, hostels, and training centers, where a large and continuous hot water supply is required for student accommodations, kitchens, and cleaning facilities. Our systems help institutions cut down on electricity and gas bills while promoting sustainable campus operations.



Healthcare Facilities:

In hospitals, clinics, and laboratories, hot water is critical for sterilization, cleaning, and patient care. The Limitless Solutions system guarantees safe, hygienic, and continuous hot water availability – backed by stainless steel construction that meets hygiene standards and reduces contamination risks.

Industrial Facilities:

Designed for heavy-duty applications in textile, food processing, chemical, dyeing, and manufacturing units, our solar thermal geysers preheat process water efficiently, reducing fuel consumption and improving production economy. Their durable construction ensures reliable operation even under high-demand industrial conditions.



Commercial Spaces:

Suitable for hotels, gyms, salons, restaurants, and laundries, where consistent hot water is essential for guest comfort and operations. The system's hybrid backup ensures no downtime, while its smart control and energy-efficient design significantly lower operational costs and carbon footprint.



Meet Our Team



Naeem Uddin Khan

CEO & Solar PV Consultant

B.E. Electrical Engineering

Over 20 years of experience in Electrical Engineering, including 10 years in Solar PV design and project management.



Romaisa Farooq

Data Analysis
Engineer



Nimra Nadeem

Design Engineer
BE – Electrical



Siraj ur Rehman

Senior Electrical
Consultant – HT/LT
Systems



Bushra Shoaib

General Manager
– Engineering &
Design



Johar Ali Khan

Business
Development Officer



Mohammad Niaz

Senior
Mechanical
Foreman



Dawood Waseem

Projects –
Manager



Emad Khan

Manager –
Engineering & Design



Naveed

Senior Electrical
Technician



Shahrukh

Foreman
(Mechanical)



Some Of Our Projects

S. NO.	PROJECT NAME	SYSTEM CAPACITY	INSTALLATION YEAR
1	SindClub	15 Units × 300 Liters Each (Total 4,500 Liters)	2025
2	DOW University (Ojha Campus)	5 Units × 300 Liters Each (Total 1,500 Liters)	2025
3	Residential – Across Karachi	20 Units × 300 Liters Each (Total 6,000 Liters)	2025
4	Residential – Across Karachi	10 Units × 200 Liters Each (Total 2,000 Liters)	2025





Limitless Solutions: Future-Ready Solar Thermal Solutions

The Limitless Solutions Solar Thermal Geyser represents innovation, reliability, and sustainability. With its smart hybrid design, advanced materials, and digital control, it offers unmatched performance for both homes and industries. Investing in our solar thermal systems means investing in a greener future, reduced energy bills, and a system built to last for decades.

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