V-GUARD

HARNESSING NATURE FOR **A BETTER TOMORROW**

SOLAR WATER HEATER

TRU-HOT PRO

BUILT TO LAST IN ALL WATER CONDITIONS

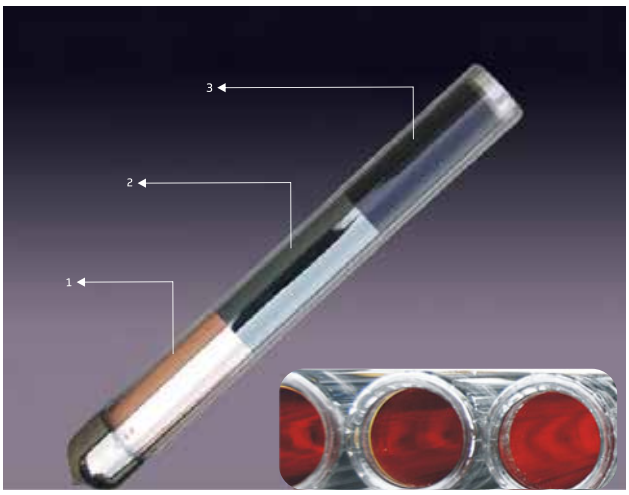
ABOUT THE FACTORY

In 2002, V-Guard started its Solar Water Heater (SWH) manufacturing at Coimbatore in both domestic and industrial segments. Later in 2013, considering business growth & to enhance plant capacity, the factory was shifted to its current location at Perundurai, Tamil Nadu. This state-of-the-art unit manufactures Solar Water Heaters with Mild Steel Glass Lined coating Tanks, Stainless Steel Tanks and Galvanized Iron tanks. The manufacturing facility of Solar Water Heating Systems have a production capacity of 1.5 Lakhs units per annum with around 100 SKUs. Models ranging from 60 Litres to 5000 Litres in both Evacuated Tube Collector & Flat Plate Collectors Pressurized/Non-Pressurized category are delivering performance on the promise of thoughtful engineering and intelligent design. The manufacturing facility has total build-up area of 9290.3 sq.mtr. with 464.5 sq.mtr. R&D testing yard and 464.5 sq.mtr. BIS certified Flat Plate Collectors manufacturing setup. We have DSIR recognised In-house R&D centre at our Head office, Cochin. We are the first company in India, developed some of unique models like Modular System, Roof Top System, Swimming Pool Heating System, Heat Exchanger model, PR to Non-PR conversion system & DAF (Low height SWH) Models. This facility is certified with ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 & BIS 12933:2003 for SWH Flat Plate Collectors. The facility boasts of a scientifically designed layout and is equipped with latest technology machineries for manufacturing of Solar Water Heaters Inner tanks & end covers of Stainless Steel, Galvanized Steel & Mild Steel with Glass Lined coating, Outer tanks & end covers of Aluminum, Pre-Painted Galvanized Iron & Zinc-Alum and Roll Form Stand which has a high emphasis on automation and safety. From high-quality raw materials to very precious automatic sheet cutting, punching, rolling, welding, testing, insulation and assembly processes, the V-Guard SWH factory boasts world-class manufacturing processes.

TRU-HOT SOLAR WATER HEATERS

Step into a world where every shower is a symphony of luxury and environmental responsibility. V-Guard presents to you an ultimate solution to all your hot water needs, Tru-Hot Pro; A superhero that pampers not just you but the planet too! Meticulously crafted using state-of-the-art technology at the V-Guard facility, these solar water heaters work like magic, using the sunlight to warm the water, making every shower a delightful experience.

Tru-Hot Pro is easy to maintain, and its durability guarantees countless indulgent showers. And here's the most exciting part, Tru-Hot Pro isn't just an upgrade; it's a smart investment. You'll save over Rs.10,000* annually while reducing your carbon footprint. With every warm drop, you're contributing to a greener future without sacrificing modern comfort.



EVACUATED TUBES WITH TRIPLE TARGETED COATING FOR MAXIMUM HEAT ABSORPTION

Our Cu/Al.N-SS/Al.N. coated evacuated system is your hot water powerhouse, delivering abundant warmth even on cloudy days! The AlN outer layer enhances heat absorption, while the Cu inner layer ensures unmatched heat transfer. The SS coating in between, optimizes the transformative journey of sunlight into soothing warmth.

1.Bottom layer – Copper (Cu) - Absorption layer.

2.Middle Layer – Combination of Aluminium Nitride and SS (Al.N-SS) - Bonding cum absorption layer.

3.Top layer – Aluminium Nitride (Al.N) - Anti-reflection layer.

*Conditions apply.

DEFYING CORROSION WITH TITANIUM INFUSED GLASS LINED COATING

Worried about your solar water heater getting rusty? Tru-Hot Pro is a game-changer with its Titanium-infused glass coating that not only protects your water heater but also ensures durability.

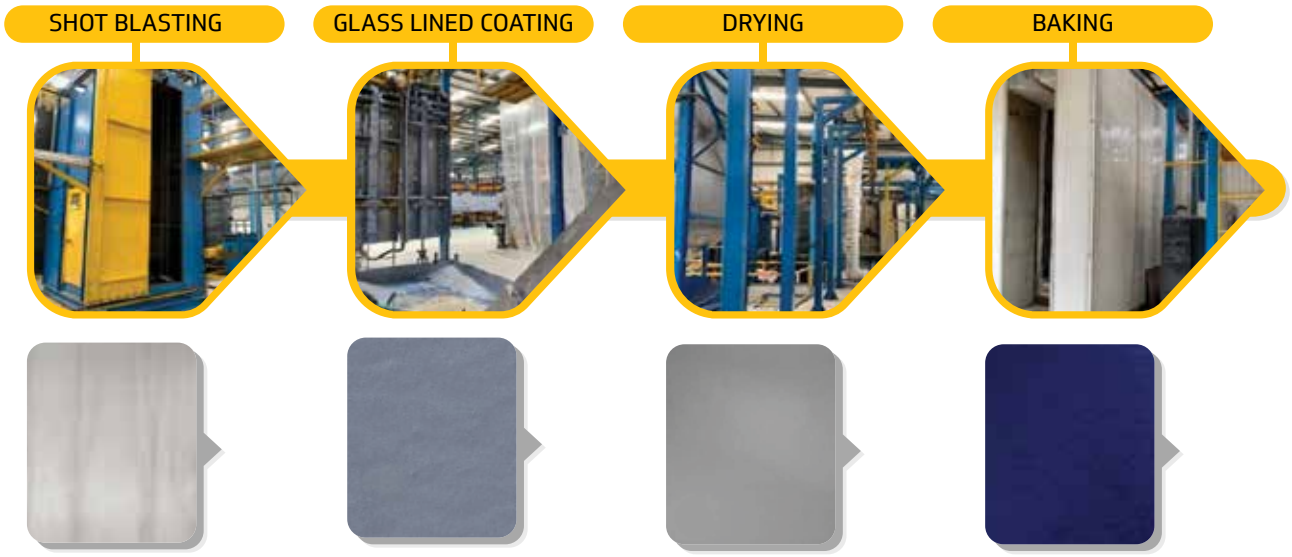
Glass Lined coating is a reliable technology that allows tanks to function well in both soft and hard water environments which also increases the durability of the tank Glass Lined coating is applied to the insides of a mild steel (MS) tank, and thus prevents contact of water with mild steel thereby offering better corrosion resistance than any other commercially viable technology currently available. The latest technology are used in the completely automatic, PLC-controlled Glass Lined coating processes. To produce high-quality products, the process is fully managed by an automatic Monorail cardanic type heavy duty conveyor. The material known as vitreous enamel powder is applied to the internal surface of a metal tank and fired at temperature between 800°C and 850°C. The molecular interaction causes the vitreous enamel powder to melt, flow, and finally harden into a smooth, long-lasting glass coating on a metal surface which is called as Glass lining, Glass-lined steel or Glass fused to steel coating.

SALIENT FEATURES

- SUITABLE FOR ALL KIND OF WATER
- CORROSION RESISTANT
- DURABLE
- 10 YEARS WARRANTY*
- EASY-TO-CLEAN TANK
- SUITABLE FOR HIGH RISE BUILDINGS

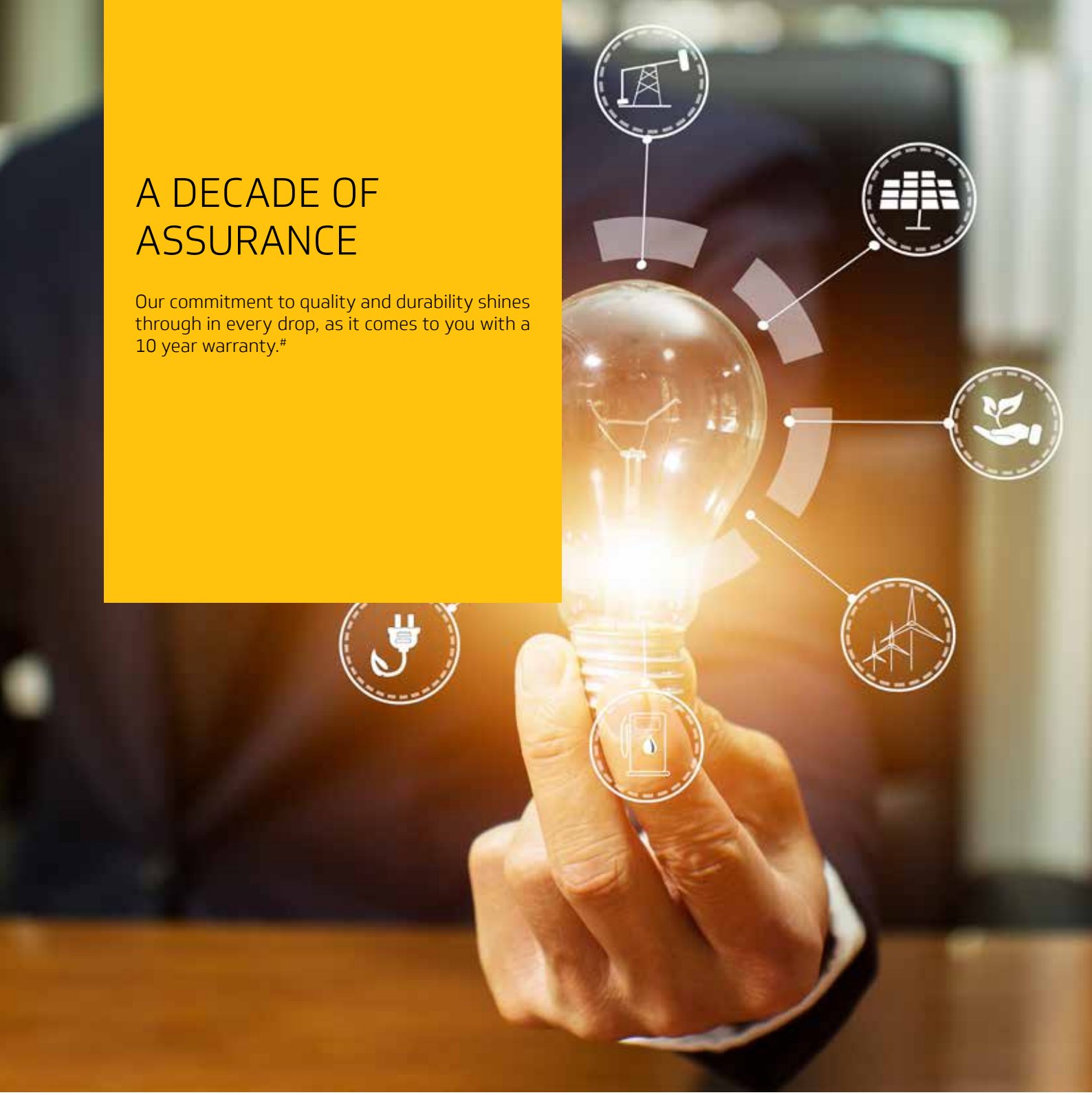
High quality titanium infused glass lined coating inside tank

TITANIUM INFUSED GLASS LINED COATING PROCESS



A DECADE OF ASSURANCE

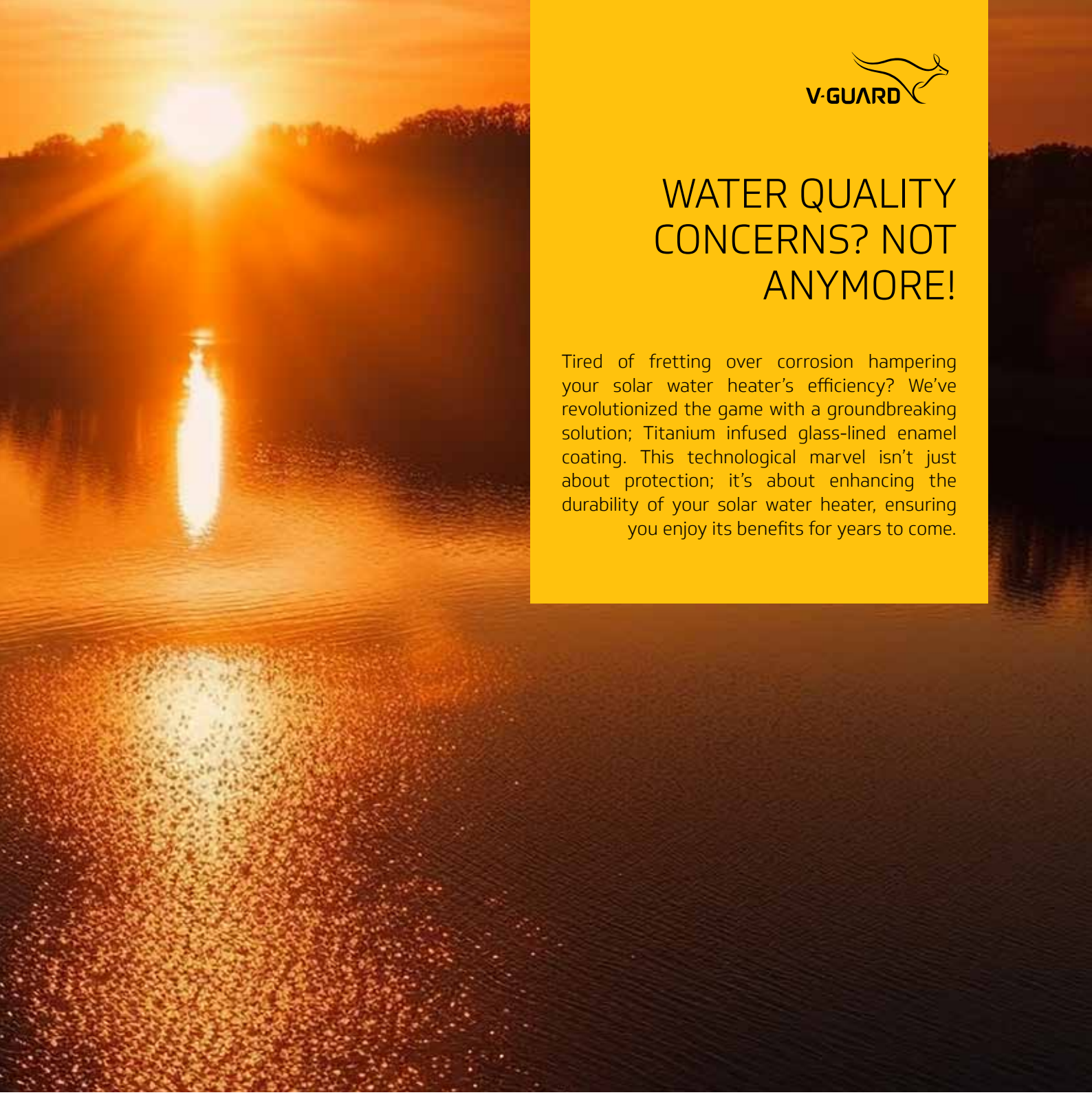
Our commitment to quality and durability shines through in every drop, as it comes to you with a 10 year warranty.#



EASY-TO-CLEAN TANK

Cleaning the tank isn't a tedious task with side open design. Simply drain water and cleaning becomes an easy, stress-free task.

#Conditions apply.



WATER QUALITY CONCERNS? NOT ANYMORE!

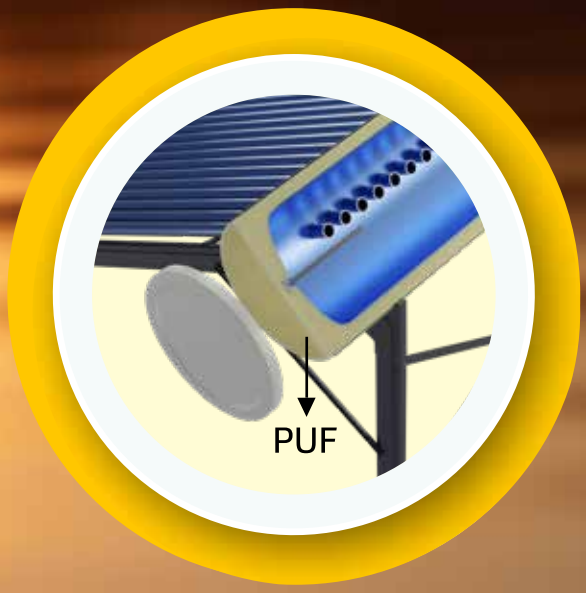
Tired of fretting over corrosion hampering your solar water heater's efficiency? We've revolutionized the game with a groundbreaking solution; Titanium infused glass-lined enamel coating. This technological marvel isn't just about protection; it's about enhancing the durability of your solar water heater, ensuring you enjoy its benefits for years to come.

BUILT TO LAST

Enjoy peace of mind that comes with knowing that the Tru-Hot Pro is built to last. With extended durability and reliability, you'll enjoy years of cost savings, reduced energy bills, and the satisfaction of making an eco-friendly choice.

HIGH DENSITY PUF INSULATION FOR MAXIMUM HEAT RETENTION

High-density PUF insulation minimizes heat loss and maintains the temperature of the stored water for an extended period.



STURDY POWDER-COATED GI ROLLED SECTION STAND

The powder-coated GI rolled with bigger section not only provides strength but also offers exceptional resistance to wear and tear as well as presents a modern and sleek appearance that complements any setting.

UNLOCK REMARKABLE SAVINGS OF OVER Rs. 10,000 EVERY YEAR!**

When you choose the Tru Hot Pro, you're not just investing, you're on the path to earning back your purchase cost in just 2 short years. And guess what, from year 3 onwards, it's like getting hot water practically for free!

SUITABLE FOR HIGH RISE BUILDINGS

Imagine the convenience of having hot water ready, no matter how high you live. Tru-Hot 8 PR can handle up to 8 bars of pressure, ensuring a steady flow of hot water for your daily needs.

**Conditions apply.

PROTECT NATURE & NATURAL RESOURCES FOR A BETTER TOMORROW

With Tru-Hot Pro, you're not just embracing a cozy lifestyle; you're becoming an active force against climate change. With every 100 LPD, you're curbing the release of up to a remarkable 1.5 tons[##] of harmful CO_2 emissions. It's like turning the tap on for both comfort and a greener planet.

HEAVY DUTY MAGNESIUM ANODE RODS EXTEND LIFE OF THE TANK

The heavy duty magnesium anode rods act as a barrier, preventing corrosion from taking hold. This means that the Tru-Hot Pro stays safe, efficient, and you enjoy a long-lasting, worry-free performance.

[#]Conditions apply.

CONSUMER VALUE PROPOSITION

CONSUMER VALUE PROPOSITION	FEATURE	SPECIFIC BENEFIT
Long lasting - withstands corrosion & tough conditions	Enamel glass line-coated inner tank	Suitable for all kind of water. Superior corrossion resistance and provide longer life
	SS 304 grade fasteners	Anti corrosive
	Models available in Zn Al and pre-coated GI (PPGI) outer body	Corrosion resistant outer body
	Heavy duty protective Mg. anode rod	Increase the lifespan of tank
	Powder coated roll formed GI stand	Rust resistant
Industry best efficiency - maximizes solar absorption & heat transfer + minimizes heat loss	Evacuated tube with three target coating-Cu/Al.N-SS/Al.N. coating and fine vacuum level	Higher solar absorption and lower heat loss
	High density PUF	Minimizes heat loss & keeps water warm longer
	Evacuated tube with three target coating-Cu/Al.N-SS/Al.N. and copper heat pipe	Higher absorption and lower heat loss in pressurized applications
Suitable for high rise buildings	Pressurized models - withstands 8 bar pressure	Does not required air vent, no risk of wind damage
	Pressurized & non pressurized models - specially designed for high rise buildings	Better water distribution and easy to maintain
Wide Range of models availability	Models for pressurized application - with dome ends profile inner tank, all glass heat pipe and pressurized flat plate solar collector technology	Customer satisfaction as product is suitable in pressurized water
	Non - pressurized models available for domestic and commercial hot water requirements	Economical series suitable for normal pressure water
Easy to clean the tank	Side open and drain option for inner tank	Customer can clean the tank easily if required
Stability and strength	Big profile powder coated GI rolled section stand	Provides better stability and strength
On demand hot water	Back-up heater (optional) available.	Uninterrupted hot water even in weather conditions
Lifetime savings - save on your electricity bills + pay back period in 2 years	Runs on solar power	Green energy product

SUPERIORTY OF TITANIUM INFUSED GLASS LINED TANK VERSUS SS TANK & GI TANK

PARAMETER	TANK		
	SS	GI	GLASS LINED
Water suitability	Only soft water	Only hard water	All kind of water
Corrossion resistance	Medium	Medium	High
Life of the coating	NA	Medium	High
Global acceptance	Limited. In very few countries	Limited. In very few countries	Widely used internationally
Hot water resistant	Good	Average	Excellent

WORKING PRINCIPLE OF NON PRESSURISED SOLAR WATER HEATER

Sunlight, incident on the Vacuum Tube, passes through the outer transparent glass tube and strikes the outer surface of the inner glass tube with selective coating (Cu/Al.N-SS/Al.N.). This glass tube, which acts like a black body, absorbs the radiation and gets heated up in the process. The presence of vacuum between the two tubes prevents heat loss to the surroundings. The heated inner tube transfers this heat to the water with which it is directly in contact. Hot water is lower in density and therefore has a tendency to rise up. Cool Water from the tank flows down to replace the hot water, facilitating circulation by thermosyphon. And through this process, the entire water in the storage tank heats up and gets ready for use. The storage tank is insulated with PUF which minimises the heat loss at night.

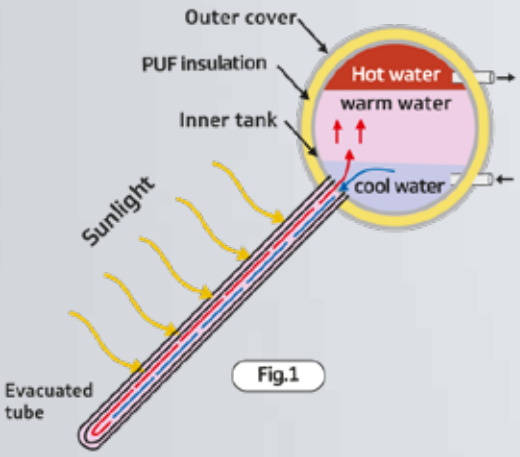


Fig.1

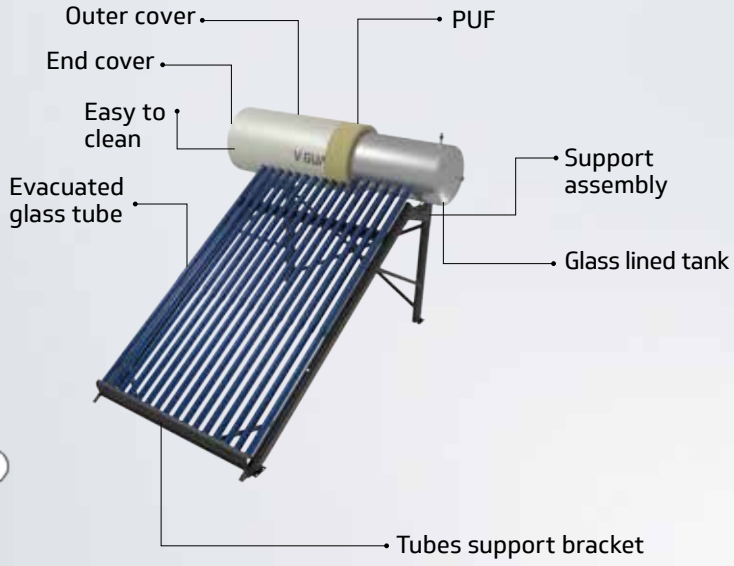


Fig.2

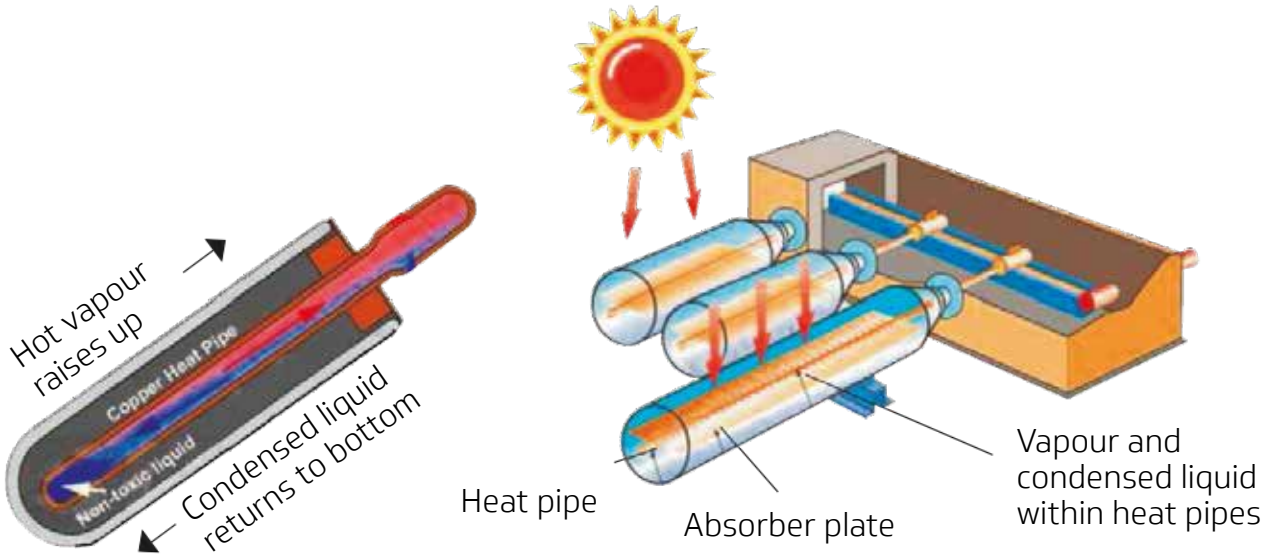
TECHNICAL SPECIFICATIONS

Capacity	Utility points	Number of persons using hot water	Number of evacuated tube	Backup heater (optional)	Inner tank	Inlet/ outlet pipe size of storage tank	Outer tank*	Size of the evacuated tubes	Tank insulation	Weight of the tank without water	System height from the roof	Minimum required overhead tank height from the roof	Minimum space area required (NS X EW)	Working max pressure
100 LPD	2	2-3	8	2kW	GL	1.9 cm (3/4)	Pre-Coated GI/Zinc Alum	Ø5.8 x 210 cm	PUF	31 kg	1.51 m	1.9 m	2.4 x 1.2 m	0.4 kg/cm²
150 LPD	3	4-5	12	2kW	GL	1.9 cm (3/4)	Pre-Coated GI/Zinc Alum	Ø5.8 x 210 cm	PUF	42 kg	1.51 m	1.9 m	2.4 x 1.6 m	0.4 kg/cm²
200 LPD	4	5-6	16	2kW	GL	1.9 cm (3/4)	Pre-Coated GI/Zinc Alum	Ø5.8 x 210 cm	PUF	55 kg	1.51 m	1.9 m	2.4 x 2 m	0.4 kg/cm²
250 LPD	4	6-7	20	2kW	GL	1.9 cm (3/4)	Pre-Coated GI/Zinc Alum	Ø5.8 x 210 cm	PUF	62 kg	1.51 m	1.9 m	2.4 x 2.3 m	0.4 kg/cm²
300 LPD	5	8-9	24	2kW	GL	1.9 cm (3/4)	Pre-Coated GI/Zinc Alum	Ø5.8 x 210 cm	PUF	73 kg	1.51 m	1.9 m	2.4 x 2.9 m	0.4 kg/cm²
500 LPD	8	14-15	31	3kW	GL	2.54 cm (1)	Pre-Coated GI/Zinc Alum	Ø7 x 210 cm	PUF	112 kg	1.6 m	2 m	2.6 x 3.3 m	0.4 kg/cm²

*Outer cover of the product may be varied from region to region.

WORKING PRINCIPLE OF PRESSURISED SOLAR WATER HEATER

The non-toxic liquid inside the Copper heat pipe used in solar water heaters has a boiling point of only 25°C. So when the heat pipe is heated above 25°C, the liquid vapourises. The vapour rapidly rises to the top of the heat pipe transferring the heat to the cold water inside the tank. As heat is lost at the condenser top, the vapour condenses to form a liquid and returns to the bottom of the heat pipe to repeat the process. Each heat pipe is tested at 250°C. For this reason the copper heat pipe is relatively soft. Because of high temperature, the glass tube is given a three-layer coating. Given the strict quality control and high Copper purity, the life expectancy of the heat pipe is even longer than that of the solar tube.



TECHNICAL SPECIFICATIONS

Capacity	Utility points	Number of persons using hot water	Number of evacuated tube	Backup heater (optional)	Inner tank	Inlet/ outlet pipe size of storage tank	Outer tank	Size of the evacuated tubes	Tank insulation	Weight of the tank without water	System height from the roof	Minimum required overhead tank height from the roof	Minimum space area required (NS X EW)	Max withstanding pressure
100 LPD	2	2-3	10	2kW	GL	1.9 cm (3/4)	Pre-coated GI	Ø5.8 x 180 cm	PUF	31 kg	1.6 m	1.9 m	2.4 x 1.2 m	8 kg/cm²
150 LPD	3	4-5	15	2kW	GL	1.9 cm (3/4)	Pre-coated GI	Ø5.8 x 180 cm	PUF	42 kg	1.6 m	1.9 m	2.4 x 1.6 m	8 kg/cm²
200 LPD	4	5-6	20	2kW	GL	1.9 cm (3/4)	Pre-coated GI	Ø5.8 x 180 cm	PUF	55 kg	1.6 m	1.9 m	2.4 x 2 m	8 kg/cm²
300 LPD	5	8-9	29	2kW	GL	1.9 cm (3/4)	Pre-coated GI	Ø5.8 x 180 cm	PUF	80 kg	1.6 m	1.9 m	2.4 x 2.9 m	8 kg/cm²

APPLICATIONS

- Houses and Bungalows
- Hotels/Hospital/Restaurants
- Resorts/Apartments
- Poultry Farms
- Textile Mills & Drying Units/Industries
- Pool Heating

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