

TiSUN[®]

SOLAR TANKS FOR THE ROUGH REALITY





Pro-Clean®



Pro-Clean® / Pro-Heat



Fresh water tank
(FS/2R)



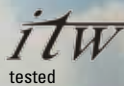
Backup tank PS



BE-SSP-E hot water
tank



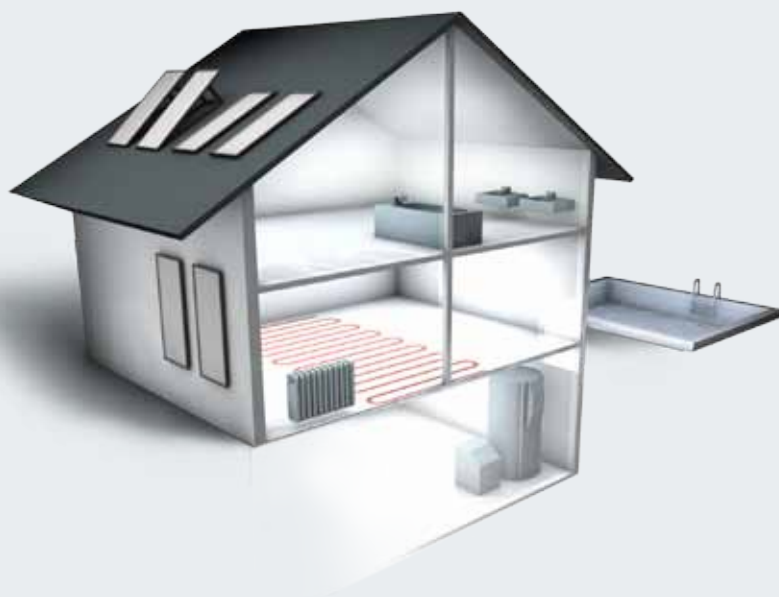
TISUN® was the first Austrian company to receive the Austria Solar quality seal.



Solar Keymark



Spanish certification
Ministerio de Industria,
Turismo y Comercio



ECO-FRIENDLY



SECURE IN SUPPLY



ENERGY-EFFICIENT



DURABLE THANKS TO
MATURE TECHNOLOGY



COST-EFFICIENT

BIG SPENDER.

THE SUN BESTOWS US WITH VAST QUANTITIES OF PURE ENERGY

Where there is sun, there is life. Since time immemorial. This endless ball of energy radiates free of charge – and contains the greatest potential of all renewable energy sources. In only 3 hours the sun delivers as much energy to Earth as the entire population of the Earth uses in a year! Altogether the sun emits 5,000 times more energy onto our planet than required by the entire human race together! We would be extremely foolish not to accept this manna from heaven. Out of respect for nature. As a responsibility to our children. For the love of life.

Solar thermal systems convert solar energy to snug warmth and help keep a clear conscience.

THE ADVANTAGES AT A GLANCE

- Clean, environmentally friendly and economical energy
- Considerable reduction in CO₂ emissions: a single household can save one tonne of CO₂ thanks to a solar heating system
- Cutting-edge technology: individually manufactured, fast installation, low maintenance requirements
- Independent of energy prices from fossil fuel resources
- Absolute supply security
- Federal and state financial incentives

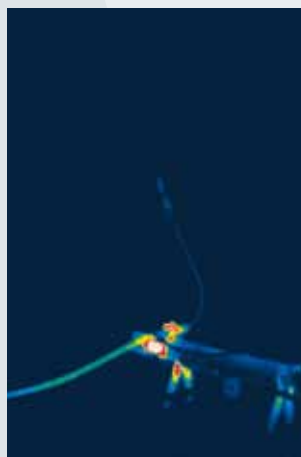
PRO-CLEAN® STRATIFIED CHARGING WITH SPHERICAL EXCHANGER

(measured at PC 800 with 14 m² FA collectors)

Hot water tends to rise while cold water sinks. The innovative Pro-Clean® spherical exchanger utilises this gravitational principle of physics. It generates water of different temperatures in different layers in the tank thereby providing the optimum water temperature in the correct layer, depending on consumer. Pro-Clean® solar stratified charging enables the solar energy obtained to be utilised much sooner than in traditional tank systems.



Spherical exchanger



1) Start of the solar charging

Tank cold, approx. +15 °C



2) After 5 mins.

Stratified charging in the spherical exchanger and heating in upper tank.

FREE DELIVERY SUNSHINE. EVEN ON RAINY DAYS.

THANKS TO THE INNOVATIVE TiSUN SOLAR TANK SYSTEMS

Even a small solar thermal system provides up to 60 % of the required hot water over a year. While the collector captures the rays of the sun and converts them to heat, the solar tank's job is to collect the hot water. The house sanitary and heating installations are fed by these reserves. This allows us to take a hot shower even when the sun isn't shining.

WHAT EXACTLY HAPPENS IN A TANK?

The tank in a solar thermal system generally contains two heat exchangers: the lower one transfers the heat from the solar circuit to the water, the upper one is connected to the boiler and provides any secondary heating required. Because of the different densities of hot and cold water, temperature stratification takes place in the tank. The lighter hot water collects in the upper regions of the tank, the heavier cold water in the bottom.

INTELLIGENT ENGINEERING, EASY HANDLING

TiSUN solar systems combine maximum efficiency with minimum effort. All components are perfectly matched to each other and reveal their capabilities in harmonic interaction. As one of the most advanced production facilities in Europe – with innumerable awards, seals of quality and their own patents – TiSUN can provide the optimum solar solution for any project: innovative technology, quickly installed, easy to handle. A broad distribution network supplies the globe with clean solar energy.

TiSUN SOLAR TANK SYSTEMS

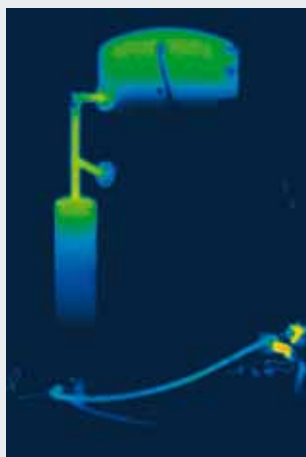
The hot water produced by the solar collector is collected in a solar tank and fed to the house sanitary and heating installations. TiSUN solar tank systems are compatible with all common heating systems. Space-saving construction, simple installation, modern design and high efficiency make these the ideal solution for sustainable energy saving. Example: 1,000 litre tank + 18 m² solar collector area = energy savings of 5,800 kWh per year. Every TiSUN tank comes with a 5-year guarantee.

■ TiSUN SOLAR STRATIFIED TANK

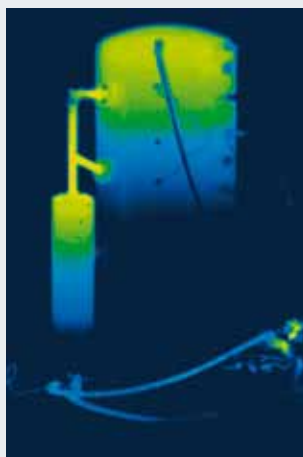
- Pro-Clean®
- Pro-Clean® 2WR
- Pro-Heat

■ TiSUN SOLAR TANK

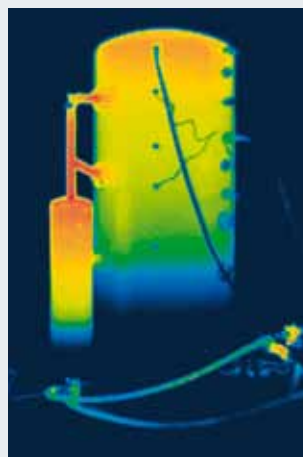
- Solar-fresh water tank
- Backup tank
- Enamelled hot water tank



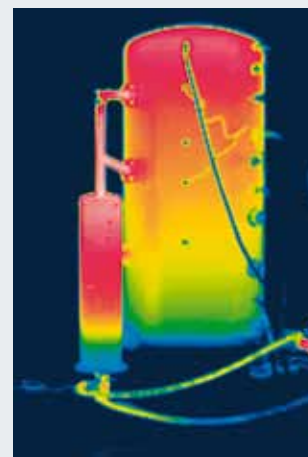
3) After 30 mins.
Tank cold, approx. +30 °C



4) After 75 mins.
Stratified charging at 2 levels



5) After 125 mins.
Upper tank at +40 °C
Centre of tank at +30 °C
Lower tank at +15 °C




6) After 170 mins.



PRO-CLEAN®



PRO-CLEAN® 2WR
(with 2 corrugated pipes for especially fast water heating)

 Even higher tap output (e.g. hotels, wellness centres, spas)

BENEFITS



Hot water



Underfloor heating



Radiator

SECONDARY HEAT SOURCE



Wood, wood chips



Pellets



Electric screw-in heating element



Oil-fired boiler, Gas-fired condensing boiler
Heat pump

THE TiSUN SUPERSTARS: PRO-CLEAN® AND PRO-CLEAN® 2WR

TiSUN SOLAR STRATIFIED TANK – CAN BE COMBINED WITH ALL HEATING SYSTEMS

With Pro-Clean®, TiSUN has introduced an amazing all-round talent for water heating and backup heating to the market: strong, stylish and multi-compatible. From solar systems through heat pumps, gas, oil or biomass boilers to tiled stoves – our Pro-Clean® stratified tank gets on with any heat source. A multifunctional energy centre, which performs at its best in combination with biomass heating systems such as pellets or wood. Thanks to its straightforward technology and low space requirement the TiSUN superstar can also be integrated retrospectively into any heating system. In terms of service life it already beats normal heating systems hands down. Faults or expensive repairs are double Dutch to our Pro-Clean®: it neither knows nor understands such words.

PRO-CLEAN® 2WR FOR DOUBLED TAP OUTPUT

After successful tuning the TiSUN stratified tank now switches to turbo with two corrugated pipes and double tap output: Pro-Clean® 2WR is an unbeatable and dependable power pack specially designed for hotels and large systems requiring high-capacity hot water supply round the clock. The heart of the solar stratified tank is what is known as a spherical exchanger, which stratifies the water – according to the laws of gravity – and thus always delivers the optimum temperature. Without any need for pumps, valves or control systems.

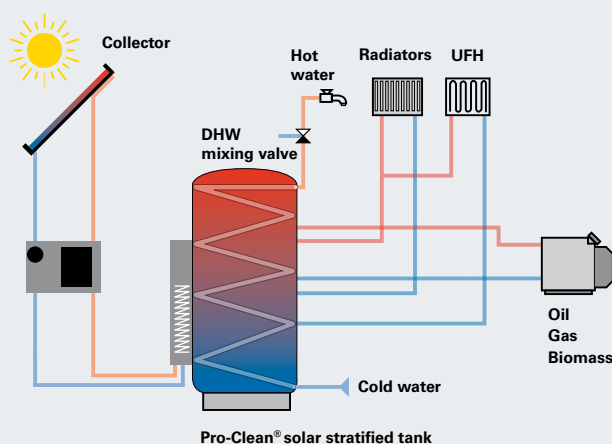
AREAS OF USE

- Individual homes and multiple dwellings
- Camping sites
- Commercial sites
- Guest houses and hotels
- Sports facilities

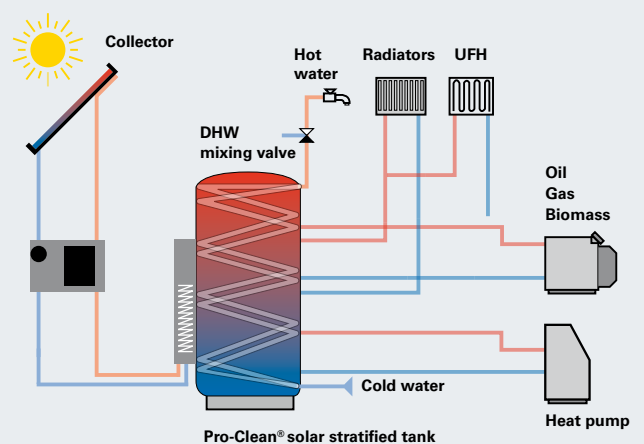
PRODUCT ADVANTAGES

- Optimum use of solar energy for hot water and heating with stratified charging
- Hygienic fresh water heating using a special corrugated stainless-steel pipe (Pro-Clean®)
- Improved economic efficiency for every heating system (solar, biomass, heat pump)
- Constant, especially fast hot water output (Pro-Clean®)
- Simple functional concept without complicated technology (natural principle)
- Space-saving design with minimum heat loss thanks to highly efficient thermal insulation
- 5-year guarantee
- Patented system (Pro-Clean®)
- Tank volume from 500 to 5,000 litres
- Long service life

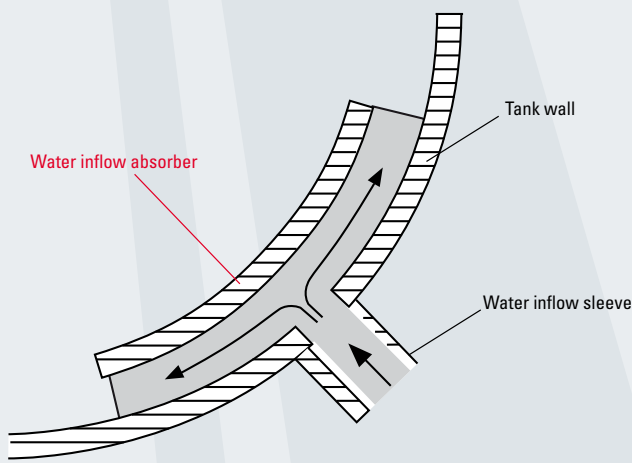
PRO-CLEAN® STRATIFIED TANK FUNCTIONAL DIAGRAM



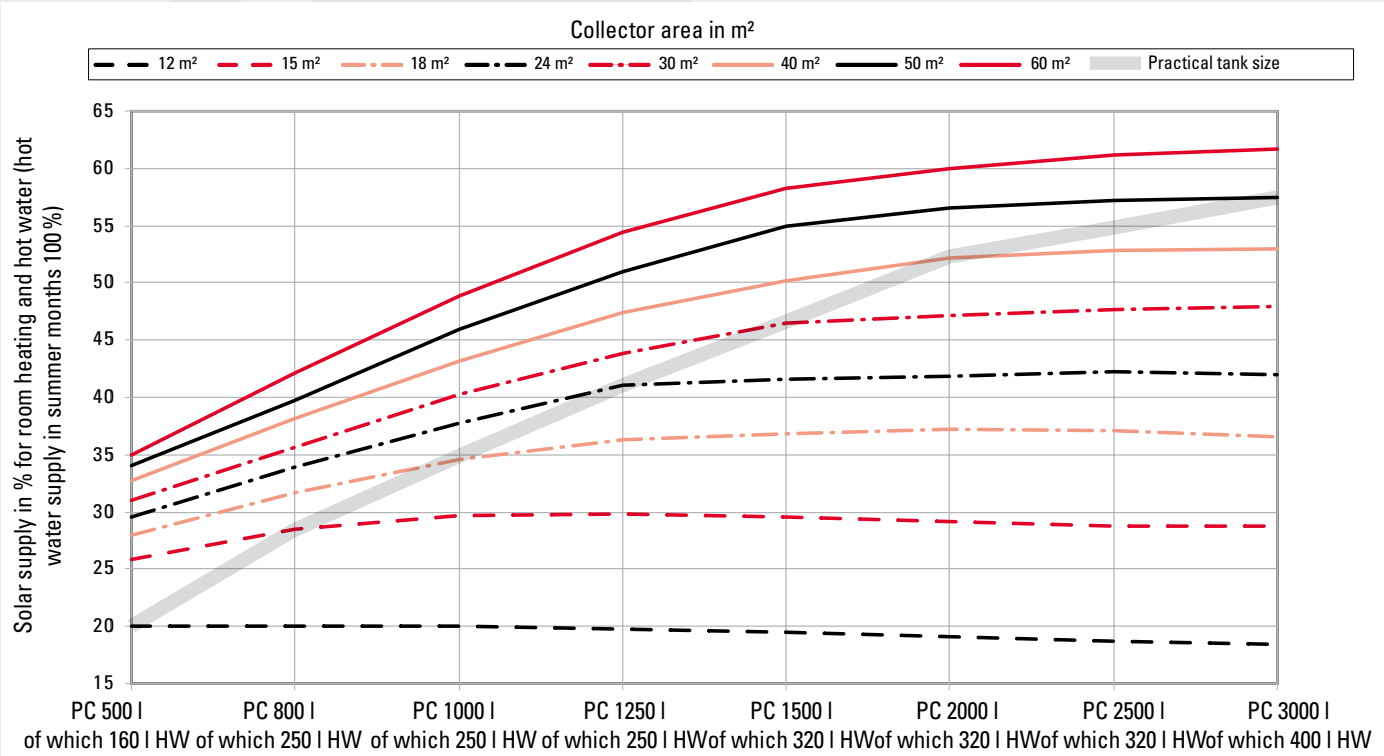
PRO-CLEAN® 2WR STRATIFIED TANK FUNCTIONAL DIAGRAM



INTELLIGENT WATER INFLOW ABSORBER TECHNOLOGY



SIZE DETERMINATION WITH SOLAR COLLECTORS



Reference house: 9 kW heat load at -15 °C ambient temperature
Location: Würzburg, Germany, collector orientation 0° south, 30° tilt, average flow temperature 33 °C

PRO-CLEAN® – A CLEAN JOB!

GERM-FREE HOT WATER AND FRESH WATER HEATING

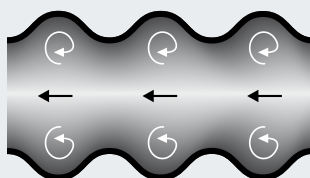
Our innovative stratified tank Pro-Clean® really lives up to its name. Thanks to its special corrugated stainless-steel pipe germs are nipped in the bud. But that's not its only strength by far.

LARGE HOT WATER CAPACITY

The corrugated profile of the pipe wall generates strong eddies when water flows through, together with a large exchanger surface area – increasing the hot water capacity many times.

GERM-FREE HEATING (LEGIONELLA-FREE)

Thanks to the low overall volume on the domestic hot water side and regular water replacement no bacteria (legionella) can collect. Additional anti-legionella heating is thus unnecessary and the solar heating system can provide more energy for hot water. With Pro-Clean® only fresh, healthy water comes from your taps – and hygiene lives up to its name.



LONG SERVICE LIFE

The special stainless-steel pipe inside the tank provides the domestic hot water for your household. In contrast to classical boilers our Pro-Clean® never rusts. This is impossible because we use stainless steel.

NO SCALING HAZARD

Even scale doesn't have a chance in the Pro-Clean® system, thanks to the special shape and length of the corrugated pipe.

MAINTENANCE-FREE TANK OPERATION

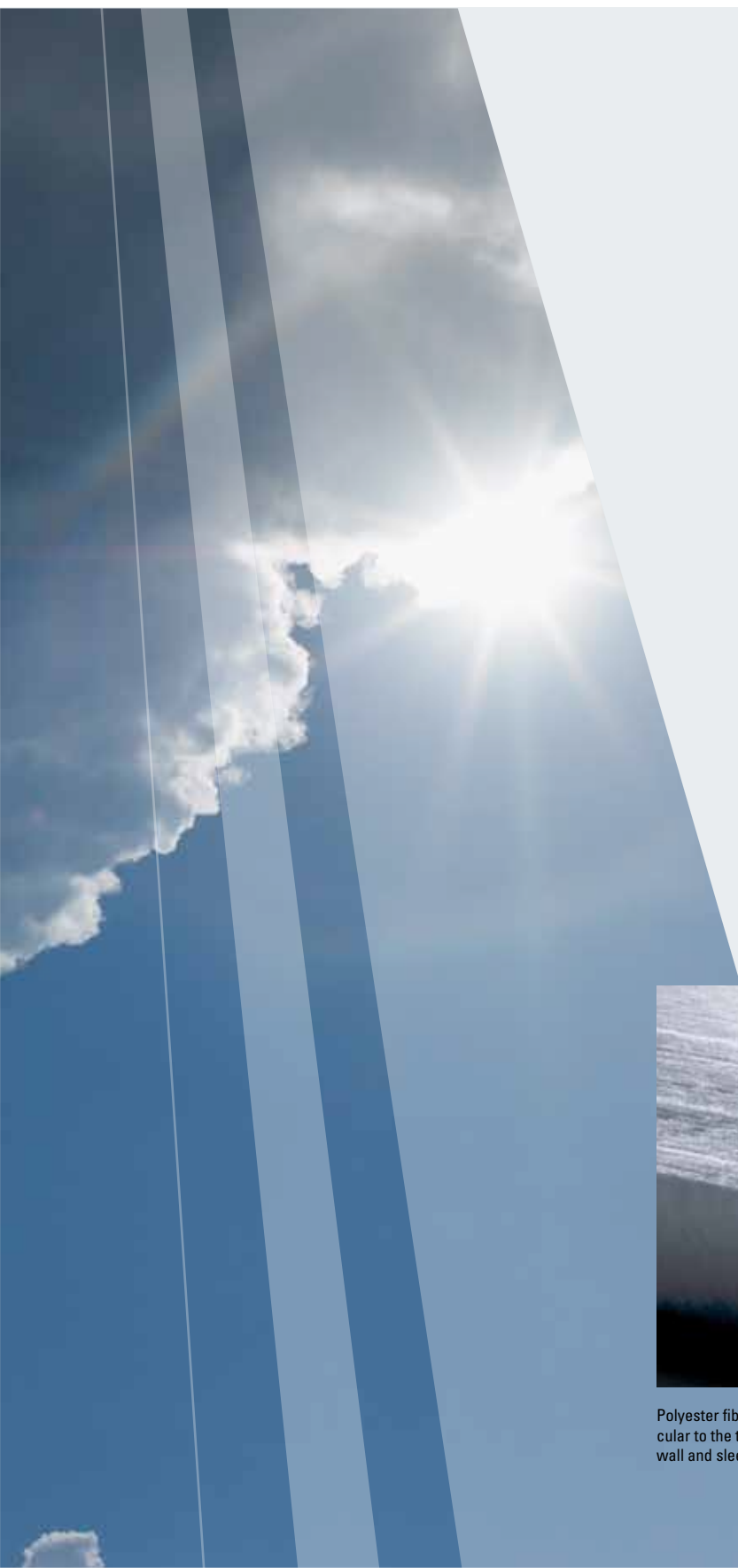
You should also be aware of the following: Pro-Clean® stratified tanks guarantee absolute maintenance-free operation (no anode maintenance necessary)! How? Because of the stainless-steel corrugated pipe naturally; it's worth its weight in gold.

Hot water tap output and spherical exchanger sizing for Pro-Clean® stratified tank

Type		PC 500	PC 800	PC 1000B	PC 1000S	PC 1250	PC 1500	PC 2000	PC 2500	PC 3000	PC 4000	PC 5000
Tank volume		520 l	760 l	980 l	980 l	1250 l	1490 l	1930 l	2430 l	2910 l	3920 l	4950 l
Single discharge capacity ¹	60°C	400 l	600 l	810 l	810 l	1050 l	1290 l	1710 l	2150 l	2610 l	3560 l	4475 l
	50°C	285 l	430 l	580 l	580 l	750 l	920 l	1220 l	1535 l	1865 l	2540 l	3200 l

Tap output (hot water)

ΔT ² bei 30 l/min	°C	4	3	3	3	3	3	3	3	3	3	3
ΔT ² bei 40 l/min	°C	6	5	5	5	5	5	5	4	4	4	4
ΔT ² bei 50 l/min	°C	10	8	8	8	8	7	7	6	6	6	6
ΔT ² bei 70 l/min	°C	–	–	–	–	–	11	11	10	9	9	8
Area of use (hot water) ³	AW ⁴	1-2	1-4	1-5	1-5	1-5	1-6	1-7	1-9	1-11	1-12	1-14
Combinable with		ST 10-40	ST 10-40	ST 20-40 ST 60K	ST 20-40 ST 60K	ST 20-40 ST 60K	ST 20-40 ST 60K	ST 20-40 ST 60K	ST 20-40 ST 60K	ST 60	ST 60	ST 60



Polyester fibre fleece (fibres perpendicular to the tank wall) adapts to the tank wall and sleeves like a wedge.



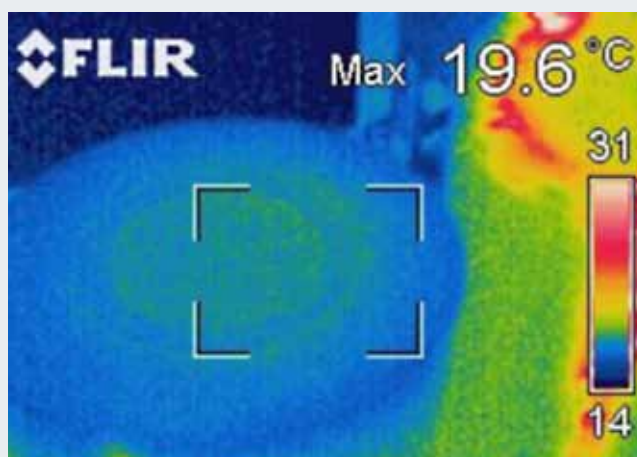
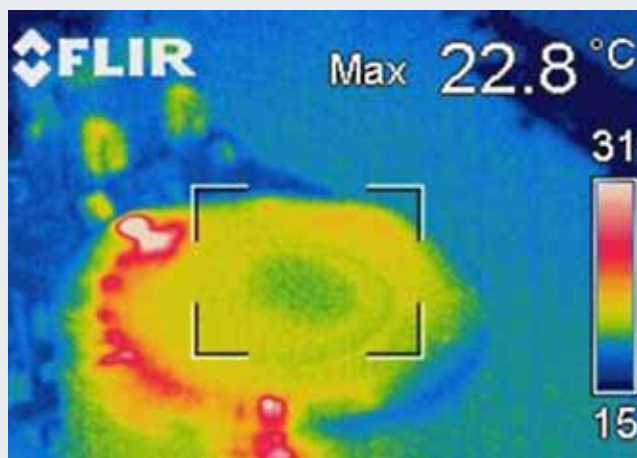
Compared to conventional fleece insulation, polyester fibre fleece distinguishes itself thanks to its dimensional stability and optimum insulating qualities.

THE PERFECT COAT

TiSUN POLYESTER FIBRE FLEECE: WARM, BEAUTIFUL, ROBUST

For the best, only the best: TiSUN solar tanks are fitted with an insulation shell of innovative polyester fibre fleece. Its optimum properties such as top-class insulating qualities, high temperature tolerance, relatively low weight and elegant appearance make it quite outstanding. The effective insulation is 100 % recyclable and considerably more resilient than conventional fleece insulation on the market. Its special wedge shape means the shell can be exactly fitted to the tank wall, effectively preventing the so-called flue leakage.

TiSUN polyester fibre fleece is available in two types: a *heavy* type, with an insulation value of 0.035 W/mK and a *light* type at 0.040 W/mK. We're happy to advise you on the right choice.



The TiSUN polyester fibre fleece (bottom image) guarantees best thermal properties compared to conventional insulation (top image).

PRODUCT ADVANTAGES

- Patented
- Elegant, functional and extremely durable, also insulates against noise
- *Heavy* version for PC, PH and PS, *light* version for FS and BE-SSP-E
- Optimum insulating qualities: 0.035 W/mK (heavy) and 0.040 W/mK (light)
- Wedge shape for exact fit on the tank wall
- Fire resistance class B1 to DIN 4102 – low flammability
- CFC- and HCFC-free
- No chemicals >> friendly to skin, breathable, safe for allergy sufferers
- 100 % recyclable!
- Resistant to mould and pest infestation



HOT STUFF: PRO-HEAT AND PS

- 1 Spherical exchanger** – for optimum stratified charging without tank mixing.
- 2 Polyester fibre fleece insulation** (best thermal properties).
- 3 Inflow absorbers** (for retaining stratification).



PRO-HEAT

- 1 Inflow pipe** – universal inflow pipe facilitates smooth stratification in the tank.
- 2 Polyester fibre fleece insulation** (best thermal properties).



**PS WITH
INFLOW PIPE**

TiSUN SOLAR STRATIFIED TANK FOR ANY HEATING SYSTEM

Our Pro-Heat even gets your heating system hot under the collar. The fast solar stratified tank with intelligent spherical exchanger supports any heating system with an optimum water supply. Stratified charging of the backup tank prevents the cold water from mixing with previously heated water (our thanks go to gravity). Inflow absorbers additionally ensure that stratification is retained (our thanks go to us).

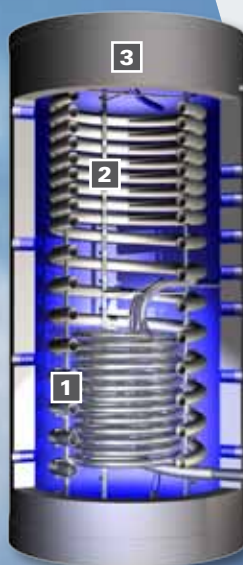
AREAS OF USE:

- In solar heating systems and backup heating
- In biomass systems as a backup tank
- In heat pump systems as a central heating tank

PRODUCT ADVANTAGES

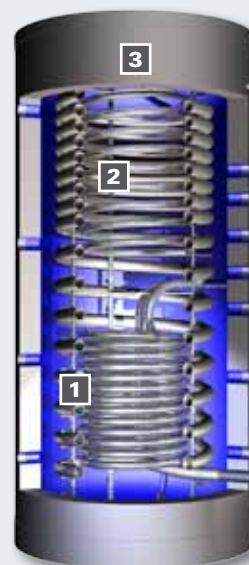
- Optimum solar energy utilisation for heating thanks to stratified charging.
- Improved economic efficiency for every heating system (solar, biomass, heat pump)
- Simple functional concept without complicated technology (natural principle)
- Space-saving design with minimum heat loss thanks to highly efficient thermal insulation
- 5-year guarantee
- Expandable with the PS heating system
- Tank volume from 500 to 5,000 litres
- Long service life

- 1** Corrugated stainless-steel pipe
(germ-free domestic hot water)
- 2** Solar smooth pipe register
(for solar charging)
- 3** Polyester fibre fleece insulation



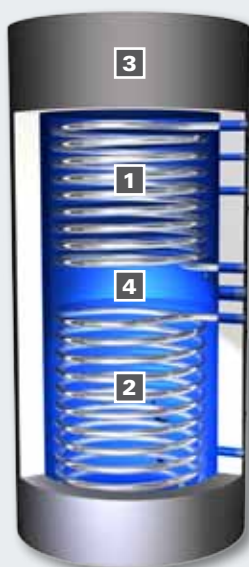
**FRESH WATER TANK
FS/1R**

- 1** Corrugated stainless-steel pipe
(germ-free domestic hot water)
- 2** Solar smooth pipe register
(for solar charging)
- 3** Polyester fibre fleece insulation



**FRESH WATER TANK
FS/2R**

- 1** Pipe heating coil/secondary heating register
- 2** Lower solar register (with large surface area for rapid heating)
- 3** Soft polyurethane foam insulation (up to 500 l)
Polyester fibre fleece insulation (from 750 l)
- 4** Direct enamelling DIN 4753



BE-SSP-E HOT WATER TANK

WATER ON!

TiSUN SOLAR TANK

If only domestic hot water is heated by solar energy the TiSUN hot water tanks is the ideal solution. With its high-quality enamelling it meets not only the highest demands on hygiene, but is also very nice to look at.

ADVANTAGES OF THE HOT WATER TANK

- High-quality enamelling
- Efficient combination of solar collectors and secondary heat sources
- Particularly suitable for domestic hot water heating
- 5-year guarantee
- Long service life

Our fresh water tank with corrugated stainless-steel pipe ensures hot, clean water and supports the heating system. Its continuous heating process guarantees a maximum of hygiene.

ADVANTAGES OF THE FRESH WATER TANK

- Simple utilisation of solar energy for hot water and heating
- Germ-free fresh water heating using special corrugated stainless-steel pipe
- Improved economic efficiency for every heating system (solar, biomass, heat pump)
- Constant, exceptionally fast hot water supply
- Simple functional concept without complicated technology (natural principle)
- Space-saving design
- 5-year guarantee, patented system
- Secondary heating with all traditional heating systems
- Long service life



Solar station with flow meter
(single-line)



Solar stations with flow meter
(dual-line)

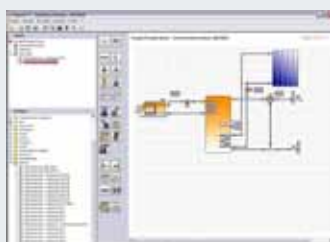


Solar stations with sensor
and sensor and control unit



Solar stations with sensor, control unit and
high-efficiency pump A





SD Datalog kit (screenshots)

A SUNNY FAMILY

TiSUN COMPONENTS: WITH HIGHLY EFFICIENT ENERGY-SAVING PUMP

The carbon footprint in view, the solar heating system under tight control. TiSUN solar stations are a completely new product development – specifically coordinated with the TiSUN product range. All models can be distinguished by their compact design, ease of handling and immediate operational readiness.

DO YOU SPEAK SOLAR?

Your carbon footprint: digital, fast and simple. TiSUN solar control units store your data for 200 days, are available in eight language versions (DE, EN, IT, FR, ES, PT, NL, HU) and can be used in a wide variety of solar and normal heating systems. Our double-loop solar control unit can be expanded to form a multiple-loop control unit, especially for individually controllable, large systems (including retrofitting).

PRODUCT ADVANTAGES

- Integrated energy-saving mode
- Solar control unit can be expanded modularly
- With highly efficient energy-saving pump (energy class A)
- Anti-lock function for circulation pumps
- Phase controlled speed control
- Electronic heat quantity metering with digital sensors
- Permanent data storage (up to 200 days) with graphical display on screen
- Large backlit LCD display and clearly arranged user interface
- Solar station complete with wiring

Pro-Clean® specifications

Type	Overall height with insulation	Dia. with insulation	Dia. without insulation	Width A with insulation	Width B with insulation	Tilt height	Weight
PC 500	1860 mm	850 mm	650 mm	1020 mm	1175 mm	1820 mm	178 kg
PC 800	2010 mm	950 mm	750 mm	1105 mm	1280 mm	1975 mm	210 kg
PC 1000B	2050 mm	1050 mm	850 mm	1180 mm	1380 mm	2020 mm	240 kg
PC 1000S	2220 mm	990 mm	790 mm	1140 mm	1320 mm	2185 mm	235 kg
PC 1250	2300 mm	1100 mm	900 mm	1235 mm	1440 mm	2270 mm	276 kg
PC 1500	2290 mm	1200 mm	1000 mm	1320 mm	1540 mm	2280 mm	303 kg
PC 2000	2380 mm	1300 mm	1100 mm	1400 mm	1640 mm	2380 mm	360 kg
PC 2500	2270 mm	1500 mm	1300 mm	1600 mm	1840 mm	2350 mm	448 kg
PC 3000	2760 mm	1470 mm	1250 mm	1530 mm	1790 mm	2780 mm	458 kg
PC 4000	2390 mm	1820 mm	1600 mm	1830 mm	2130 mm	2520 mm	550 kg
PC 5000	2900 mm	1820 mm	1600 mm	1830 mm	2130 mm	3020 mm	630 kg



Pro-Heat specifications

Type	Overall height with insulation	Dia. with insulation	Dia. without insulation	Width A with insulation	Breite B mit Isolierung	Tilt height	Weight
PH 500	1860 mm	850 mm	650 mm	1020 mm	1175 mm	1820 mm	100 kg
PH 800	2010 mm	950 mm	750 mm	1105 mm	1280 mm	1975 mm	120 kg
PH 1000B	2050 mm	1050 mm	850 mm	1180 mm	1380 mm	2020 mm	140 kg
PH 1000S	2220 mm	990 mm	790 mm	1140 mm	1320 mm	2185 mm	140 kg
PH 1250	2300 mm	1100 mm	900 mm	1235 mm	1440 mm	2270 mm	170 kg
PH 1500	2290 mm	1200 mm	1000 mm	1320 mm	1540 mm	2280 mm	190 kg
PH 2000	2380 mm	1300 mm	1100 mm	1400 mm	1640 mm	2380 mm	240 kg
PH 2500	2270 mm	1500 mm	1300 mm	1600 mm	1840 mm	2350 mm	300 kg
PH 3000	2760 mm	1470 mm	1250 mm	1530 mm	1790 mm	2780 mm	365 kg
PH 4000	2390 mm	1820 mm	1600 mm	1830 mm	2130 mm	2520 mm	420 kg
PH 5000	2900 mm	1820 mm	1600 mm	1830 mm	2130 mm	3020 mm	500 kg



PS specifications

Type	Overall height with insulation ¹	Dia. with insulation	Dia. without insulation	Tilt height	Weight
PS 500	1.860 mm	850 mm	650 mm	1.800 mm	130 kg
PS 800	2.010 mm	950 mm	750 mm	1.965 mm	155 kg
PS 1000B	2.050 mm	1.050 mm	850 mm	2.020 mm	185 kg
PS 1000S	2.220 mm	990 mm	790 mm	2.180 mm	185 kg
PS 1250	2.300 mm	1.100 mm	900 mm	2.270 mm	215 kg
PS 1500	2.290 mm	1.200 mm	1.000 mm	2.280 mm	247 kg
PS 2000	2.380 mm	1.300 mm	1.100 mm	2.380 mm	305 kg

Not held in stock (delivery time approx. 6 to 8 weeks)

PS 2500	2.270 mm	1.500 mm	1.300 mm	2.350 mm	380 kg
PS 3000	2.770 mm	1.470 mm	1.250 mm	2.780 mm	415 kg
PS 4000	2.400 mm	1.820 mm	1.600 mm	2.520 mm	510 kg
PS 5000	2.910 mm	1.820 mm	1.600 mm	2.945 mm	520 kg

BE-SSP-E specifications

Type	Nominal volume	Diameter	Dia. without insulation	Height	Tilt height	Weight when packed
BE-SSP-E 200	192 lt	540 mm	-	1473 mm	1530 mm	75 kg
BE-SSP-E 300	295 lt	600 mm	-	1834 mm	1892 mm	116 kg
BE-SSP-E 400	380 lt	700 mm	-	1631 mm	1738 mm	132 kg
BE-SSP-E 500	470 lt	700 mm	-	1961 mm	2044 mm	149 kg
BE-SSP-E 750	750 lt	950 mm	750 mm	2020 mm	2072 mm	221 kg
BE-SSP-E 1000	995 lt	1050 mm	850 mm	2045 mm	2135 mm	272 kg

Fresh water tank specifications

Type	Overall height without insulation	Overall height with insulation	Dia. without insulation	Dia. with insulation	Tilt height	Weight without register	Weight with register
FS 375/1R	1675 mm	1725 mm	550 mm	710 mm	1695 mm	122 kg	142 kg
FS 500/1R	1790 mm	1860 mm	650 mm	850 mm	1820 mm	178 kg	200 kg
FS 800/1R	1940 mm	2010 mm	750 mm	950 mm	1975 mm	210 kg	240 kg
FS 1000-S/1R	2150 mm	2220 mm	790 mm	990 mm	2185 mm	235 kg	270 kg



ECO-FRIENDLY



SECURE IN SUPPLY



ENERGY-EFFICIENT



DURABLE THANKS TO
MATURE TECHNOLOGY



COST-EFFICIENT

