

LATENTO®

Solar Heat for Generations

All-year Solar Systems

- *Domestic hot water generation*
- *Heating support*



for storage and collector

IVT®
A  group company
GmbH & Co.KG



Solar Heat for Generations

USING THE SUN'S POWER IN AN OPTIMAL WAY – THE LATENTO SOLAR LAYER STORAGE

The sun comes and goes, but how can we store this enormous amount of energy in order to use it for hot water and heating circuits also at night. The answer is quite simple – in water. The extent to which heating performance and solar yield can be optimized, however heavily depends on the design of the storage unit. The Latento solar layer storage unit looks quite simple, but inside it is hidden a wealth of engineering and technical design giving a state of the art solution.

OPTIMAL STRATIFICATION: THE INSTANTANEOUS WATER HEATER PRINCIPLE

Heating of storage water and heat output takes place via finned tube heat exchangers. The storage unit is unpressurised, which is why there are no flows and turbulences. The heat can rise to the top in calm water only. This is the basis for an optimal thermal stratification.

EXCELLENT HEAT INSULATION

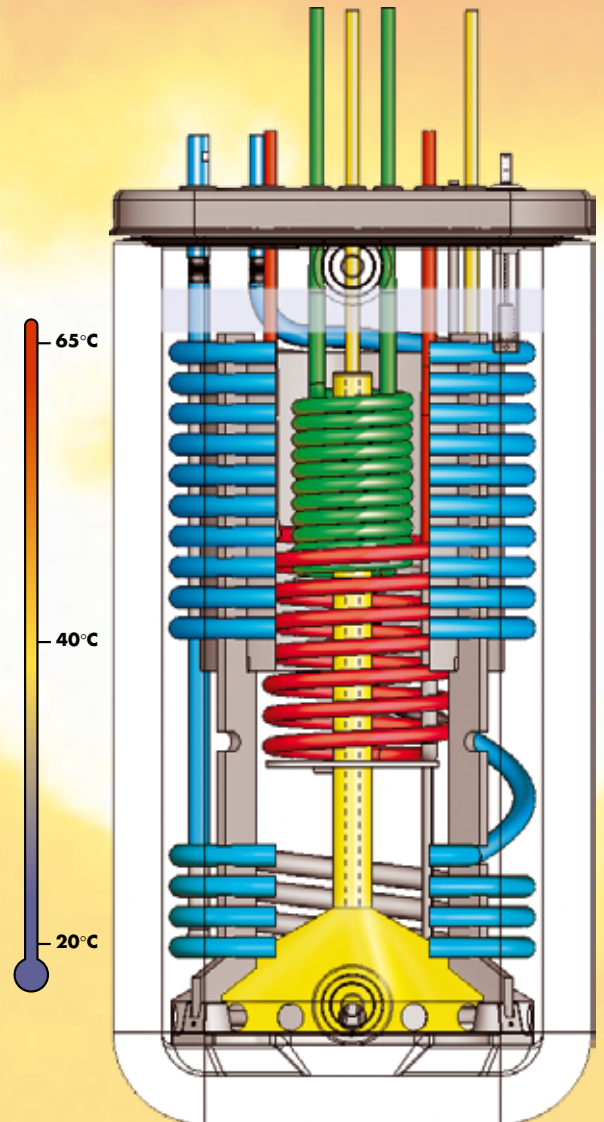
The storage tank is made of polypropylene with a highly heat-insulating, rigid foam core. In contrast to conventional steel tanks, the Latento needs no additional insulation. It transfers almost no heat to the outside, and as there is no risk of internal corrosion it will last a lifetime.

NOMEN EST OMEN – LATENT MATERIAL AS ADDITIONAL HEAT STORAGE

Really smart – the Latento is the only solar layer storage, which, apart from water, has another optional heat storage medium. In case of strong solar radiation, the latent material in the upper area of the storage takes up energy in addition thus being able to increase performance once again.

AN EFFICIENT SYSTEM

All Latento system components have been designed to work together and to ensure the easiest and most efficient use of the sun's energy every day. The Latento CPC vacuum tube collector and solar layer storage tank have been awarded the German environmental "Blauer Engel" award for excellent energy efficiency.



Schematic representation **LATENTO** XXL

FUNCTION OF HEAT EXCHANGERS

- **Exchanger for domestic hot water:** Cold water from the mains is heated by flowing through the heat exchanger, cooling the lower part of the tank
- **Space heating exchanger:** Primary heating of space heating circuits by means of through-flow heat exchange
- **Reheating heat exchanger:** Primary heating of storage
- **Solar heat exchanger:** Primary heating of storage water



The solar heating system

LATENTO®

THE SOLAR HEART: XXL-STRATIFIED STORAGE

Advantages:

- rapid solar loading, usable temperatures after only 30 minutes of loading
- long-term storing over many days, only 2,4°C temperature decrease per day (without output)
- excellent layering, DIN tested
- for different heat sources
- domestic hot water heating and heating support
- latent material for enhanced performance
- domestic water remains fresh (thanks to the instantaneous water heater principle)
- hygienically perfect: no risk of legionella infection
- only 116 kg weight, ready for mounting
- time-saving and easy mounting
- polypropylene tank maintenance-free and corrosion-free

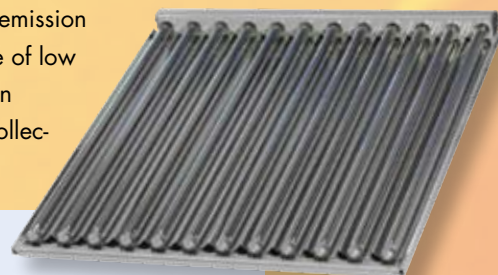
TECHNICAL DATA STORAGE

Dimensions:	78x78x170 cm
Diagonal measure:	190 cm
Average specific loss rating:	1,4 W/K
Average hourly temperature drop:	0,10 K/h
Material:	Polypropylene
Weight:	116 kg
Total storage capacity:	500 l
Storage water capacity:	430 l
Continuous rating hot water	
DIN 4708 QN (at 80/10/45):	21,9 KW
Performance coefficient NL:	1,5-1,8



CPC ALL-YEAR-COLLECTOR

The vacuum of the glass tubing ensures low emission of heat and thus high efficiency even in case of low ambient temperatures. The collector has been tested according to DIN 4757 Part 4. The collector is TÜV-certified and type-approved.



TECHNICAL DATA COLLECTOR

CPC Collectors type: IVT CPC

Number of vacuum pipes:	12	18	pcs.
Outer dimensions (L x 1,64 x 0,12):	1,39	2,08	m
Gross surface area:	2,30	3,43	m ²
Aperture surface area:	2,00	3,00	m ²
Absorber surface area:	2,00	3,00	m ²
Collector capacity:	1,6	2,4	L
Weight approximately:	37	54	kg
Max. working pressure:	10	10	bar
Colour: grey	RAL 7015		
Glass material:	borosilicate		
Glass pipe diameter:	47 mm		
Wall thickness:	1,6 mm		
Vacuum:	long-time stable 10 ⁻⁶ mbar		
Absorber material:	aluminium		
Coating:	aluminium nitrite		
Optical coefficient:	C0: 0,63		
Loss factor:	C1: 1,00		
Loss factor:	C2: 0,002		
Mounting angle:	15-90°		
Connection:	clamp ring screw connection 15mm		



ALL INCLUSIVE REGULATION - THE ALL-ROUNDER

The all-inclusive control enables optimum regenerative energy utilisation to be achieved. If the sun's heat is no longer sufficient, the control incrementally switches on further energy sources: electrical heating element, heat pump, oil or gas boiler, etc. The sun always comes first!



ALL-INCLUSIVE-REGULATION

Micro-processor controlled heating controller with user friendly rotary knob and LC display, calendar clock with changeable standard programs for heating and hot water, incl. wall housing, 1 collector and 4 submersible sensors 6 mm. 2 contact sensors and 1 external sensor

Functions:

- control of 2 heating circuits, controlled or uncontrolled
- solar regulation via differential temperature control system
- control of max. 3 heat generators
- stepwise or modulated heat generator cascading via e-BUS
- plant specific data for specialised setting in protected levels
- user-friendly function checks and status inquiry
- can be combined with other controllers for heating or solar (on request)

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The free heat system

AT A GLANCE: THE LATENTO SYSTEM COMPONENTS



Layer storage **LATENTO XXL**

- domestic hot water (DHW) heating & heating support
- stainless steel DHW heat exchanger
- maintenance-free
- DIN 4753 and 4708 tested
- "Blauer Engel" award for energy saving

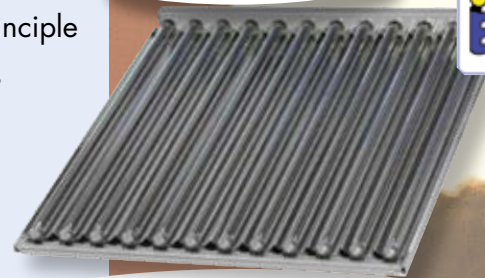
ADVANTAGES **LATENTO SOLAR SYSTEM**

- high solar gain - all year long
- for more independence from rising oil- and gas prices
- reduces CO₂ - emission
- high efficiency collector thanks to thermos flask principle
- great performance also during cloudy / cool days
- optimally suited to heating support
- extends the life-time of your central-heating boiler
- fast and easy mounting
- 5 years warranty
- solar-keymark
- "Blauer Engel" for storage tank and collector
- legionella-free due to instantaneous water heater principle



LATENTO All-Inclusive central control - the "all-rounder"

For best performance



Always in line with the sun - the CPC vacuum tube collector

Your **LATENTO** partner

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