Solar thermal collector
UltraSol

Hoval

Responsibility for energy and environment

Ultra slim, ultra lightweight, ultra efficient.
A range of collectors for all installation methods.

Front page:
aluFrame – the new diecast aluminium frame for the UltraSol collector range offers maximum strength whilst still boasting an exceptionally slimline, light and shapely design.

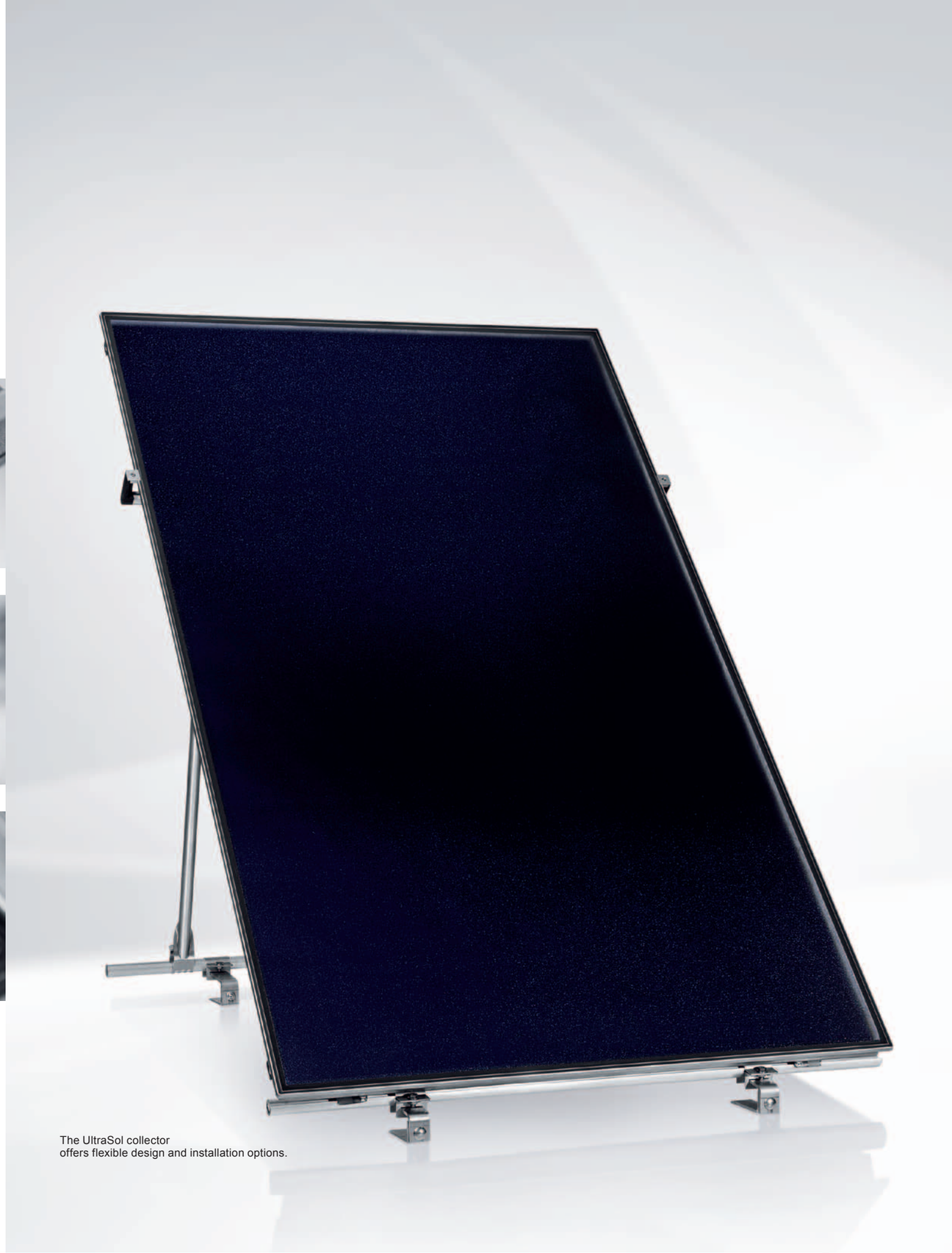
Solar thermal collector. UltraSol.

The sun is an inexhaustible source of energy that costs nothing. Integrating this energy into the heating system as efficiently as possible enables you to conserve resources and, above all, save money. With a Hoval solar energy system, you are opting for an environmentally friendly and sophisticated solution for your heating and hot water supply.

The new UltraSol product range is a Hoval innovation that is designed to meet today's requirements for top quality, maximum efficiency and easy installation. UltraSol offers two types of collectors (UltraSol and UltraSol eco), each of which is available in both a horizontal and a vertical design. They have been designed to have an exceptionally low construction height and weigh very little. Thanks to the installation system and plug-and-play hydraulic kits, all the collectors are suitable for any method of installation – whether they're being placed in a roof, on a roof, incorporated into a flat roof, or simply acting as a free-standing structure.

Marking a first for the industry, these products also come with the Hoval aluFrame, an ultra-lightweight diecast aluminium frame whose seamless design keeps the collectors firmly in place and enhances their resilience. To increase its efficiency, the Hoval UltraSol collector features a special antireflective coating applied to the solar glass, which blends discreetly into the roof.

As a system provider, Hoval integrates the UltraSol collectors into the heating system with maximum efficiency – and provides everything from a single source, including the TopTronic®T control unit.



The UltraSol collector
offers flexible design and installation options.

UltraSol.
Your advantages at a glance.

The solar energy system uses free, sustainable solar energy to heat water and even the building itself, depending on the season – an excellent reason to choose an economical, environmentally friendly system like this one. The Hoval UltraSol solar collectors offer a flexible solution, as each of the two collector types can be installed both horizontally and vertically. Their low construction height, plus the option of an extra-slim diecast aluminium frame and the UltraSol antireflective solar glass, combine to form a remarkably sleek yet discreet look.

Sophisticated

Flexible design and installation

- **Low height and high stability** due to a sophisticated design with an exceptionally **slim diecast aluminium frame**
- **All installation methods possible** with one range of collectors
- **Minimal glare from the sun** thanks to antireflective solar glass

Easy to use

One installation system for all collectors

- **Quick and easy installation** due to an easy-to-use connection system for the entire UltraSol range
- **Simple hydraulic integration** due to a meander absorber and 4 connections
- **Convenient operation** due to a single TopTronic® T control for heating, hot water and solar power
- **Perfect integration into the heating system** using Hoval system solutions – everything from a single source

Ecological

Using clean solar energy efficiently

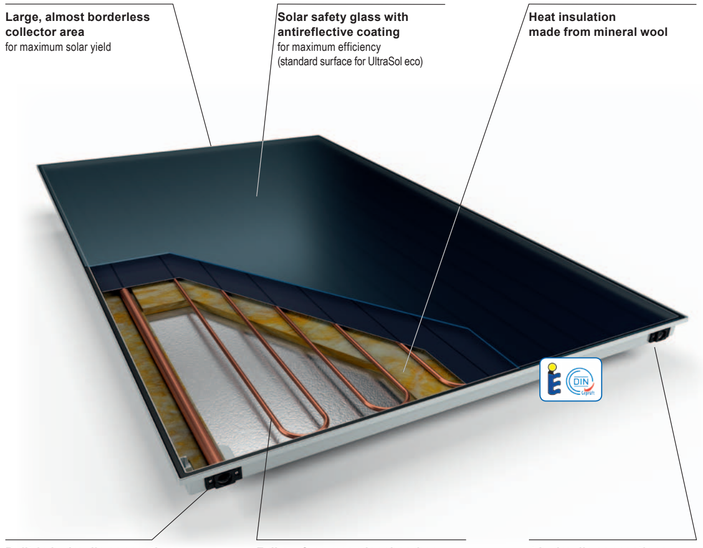
- **Free from CO_2 and emissions**
- **60-80% of the energy for water heating**
- **20-50% of the energy for heating backup supplies**

Economical

High solar yield saves on heating costs

- **High solar yield** due to cutting-edge technology
- **Savings made on energy consumption costs** through the use of free solar energy.
- **Further savings made on electricity costs** through the use of solar heat for washing machines and dishwashers
- **Savings made** due to regional subsidy programmes

UltraSol.
Shapely, flexible, easy to install.



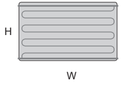
Technical data			UltraSol	UltraSol eco
Solar Keymark certification			yes	
Efficiency η_0			0.851	0.797
Total surface area		m^2	2.52	
Absorber surface		m^2	2.36	
Dimensions (WxHxD)	vertical design horizontal design	mm	1230 x 2050 x 54 2050 x 1230 x 54	

Subject to modification

Designs

vertical installation

horizontal installation



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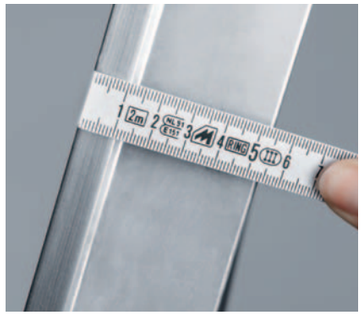
UltraSol.
Sophisticated design for a sleek look, easy installation and a high solar yield.

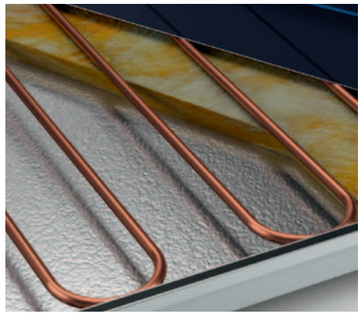
Perfect integration into every roof type

The Hoval UltraSol collector range comprises two collector types, each of which is available in a vertical and a horizontal design. This flexibility, coupled with the absorber surface gained from the ultra-slim, diecast aluminium frame, allow for optimum use of the roof space. The range accommodates every type of installation (in-roof, on-roof, flat roof and free-standing) thanks to coordinated installation systems and hydraulic kits.



Unique, slim, diecast aluminium frame

The specially-made diecast aluminium frame, aluFrame, is the largest in Europe to be produced using this manufacturing technique. Its benefits come in the form of a seamless frame, which offers a greater level of stability than types with joints. This is ideal not only when transporting the frame, but also when handling it during the installation process. Once on the roof, the slim side profile of the frame makes the collector area appear almost as if it had no borders, creating a harmonious visual effect.



Meander absorber with 4 connections

The full-surface meander absorber in the UltraSol system creates a uniform flow and excellent heat transmission from the solar energy to the solar fluid.

The 4 UltraSol connections enable simple hydraulic integration whilst offering a high level of flexibility: the individual collectors can be connected in parallel or in series, as required. This enables the hydraulic resistance to be adjusted precisely to the needs of the application, making the UltraSol ideal even for large systems. The practical, efficient draining function via the four connections is yet another advantage.

Coated antireflective solar glass

Selecting the coating for the solar glass not only meant considering its visual effect and ensuring limited glare; above all else, it was also necessary to select a coating that would maximise solar yield. The antireflective coating on the UltraSol collector reflects less incidental sunlight, allowing it to use and store more heat.

Both UltraSol collectors easily meet annual minimum yield requirements for collectors (525 kWh/m²) and have been granted Solar Keymark certification.

A flexible installation system for all collectors

The sophisticated fastening system for both types of collectors means that installation takes no time at all, whether it involves in-roof, on-roof, flat roof or free-standing methods.

The matching components form part of the installation kit for each variant. This means that each kit contains the fastening system required for installation, plus a hydraulic kit. For in-roof installations, the cladding can either be supplied by Hoval or provided by the customer, depending on requirements.

A design to suit your needs

If requested, Hoval is able to help design the entire solar energy system. This includes the quantity and orientation of the collectors, the sets of solar fittings, the buffer storage tanks, the additional heat generators for months when it is less sunny, and the control unit.

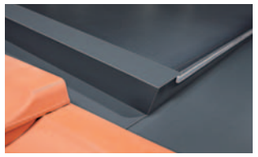
As a complete provider, Hoval ensures that all system components are perfectly coordinated with one another, which not only makes them easier to use, but also enhances the system's efficiency.

UltraSol – one for all.
In-roof, on-roof and flat roof installation.

Today's solar collectors can be interesting architectural features and add visual appeal to the look of a building. They can be found not only on the roofs of houses, but also on porch roofs, garage roofs, in gardens and on patios. The two collector types in the UltraSol range can accommodate all these options. No matter the space required or how the system needs to be positioned, flexible and rapid installation is guaranteed thanks to the standardised Hoval installation concept.

In-roof installation

For in-roof installation, the UltraSol collectors are integrated into the roof of the house and blend seamlessly into the overall appearance of the building. The system is particularly well suited to new buildings or renovations involving work on the roof.



Sheet metal flashing for in-roof installation

On-roof installation

On-roof installation is ideal for retrofitting the collectors as no major interventions in the roof structure or roof covering are required.
The UltraSol mounting brackets can be adjusted in a number of ways and are fixed directly to the roof framework through the tiles.

UltraSol on-roof installation:
The special mounting bracket can be adjusted in a number of ways and is fixed directly to the roof lathing beneath the tiles.

Flat roof installation

Flat roof installation is carried out using concrete bases or hanger bolts This method is suitable for use in cases where the pitch of the roof is extremely low. Depending on the application (hot water or heating), installation angles from 30 to 60° may be required.

Elevated flat roof installation

Installation with a concrete base

UltraSol.
Rapid installation due to a flexible connection system.

Lateral fastening:
Insert the clamping element with the end seal into the holding tube profile and screw it in tightly

The collector is fastened with a lateral clamping element at the ends of the upper holding tube profile. To achieve this, the end seal is inserted into the profile and firmly clamped with a screw.

Top fastening:
Insert the collector clamping element into the holding tube profile, turn it and screw it in tightly

Top fastening is carried out using clamping elements between the collectors. These clamping elements are anchored in the upper holding tube profile by inserting and turning them, and are then tightened with a screw.

An installation concept for all UltraSol types and all installation methods

The installation concept for the UltraSol collectors is as simple as it is ingenious. It is based on a flexible framework with special aluminium holding tube profiles. The concept is available for all on-roof, flat-roof and free-standing installations. Once the basic framework is stable, final assembly of the collectors is performed with ease using plug-in connections. The only tool that is needed is an Allen key to fasten the clamping elements.

Bottom fastening:
Insert the collector into the holding tube profile and turn the locking bolts

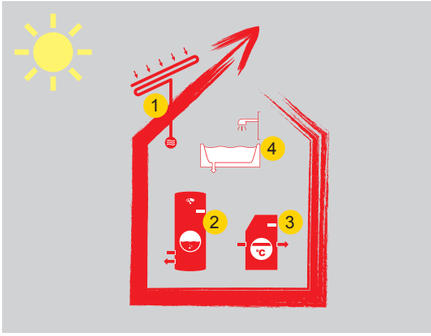
The holding tube profiles are mounted on the pitched or flat roof using suitable fastening material.
The collector is inserted into the lower holding tube profile using the pre-mounted locking bolts and then locked into place by simply turning and latching in the tabs.

Hydraulic connection:
Insert the connection and end pieces and fix in place using a retaining clip

All hydraulic connections are joined easily using connection pieces and end pieces. These plug-in connections are each sealed 3 times with O rings and are also fastened using a plug-in securing element.

UltraSol.
From water heating in single family homes right through to industrial process heat.

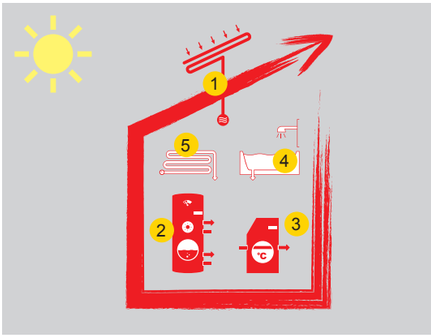
The modular concept, flexible installation options and hydraulics make UltraSol the ideal solution for a vast range of different requirements. Whether it takes the form of a smaller water heating system in a single family home or a large-scale installation for industrial use, the UltraSol really is suitable for anything. Thanks to the quick and easy installation process, even large-scale systems are inexpensive to install.



Solar water heating...

With a modern, solar compact system from Hoval, up to 80% of the annual energy demand for hot water can be covered in a 4-person family home.
This type of compact system can be combined with all standard heating systems, and its simple installation and compact dimensions even make it ideal for renovation projects.

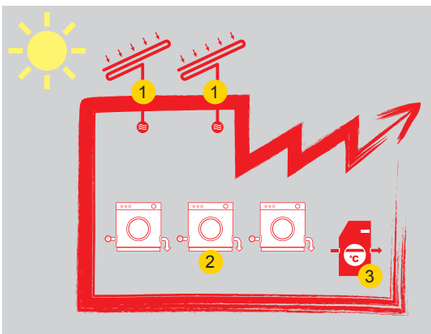
1) Solar collectors
2) Water heater with solar fittings
3) Additional heat generator
4) Hot water consumer



...and heating backup supplies.

An even more intriguing solution is a solar energy system that is used not only to produce hot water, but also to provide backup for oil, gas, biomass or heat pump heating systems.
In this way, between 20% and 35% of energy can be saved – and as much as 50% in low-energy houses.

1) Solar collector
2) Solar combination storage tank for water heating and heating backup supply
3) Additional heat generator
4) Hot water consumer
5) Radiator



Solar process heat for industrial applications.

Solar collectors can even supply the required level of heat energy for industrial processes. Solar installations can offer significant energy savings, particularly in the case of processes in the lower temperature range between 40 and 60°C, such as washing, cleaning and drying.

1) Solar collectors
2) Process heat (e.g. washing, cleaning, drying)
3) Building heating system

Energy-saving compact solutions for single family homes

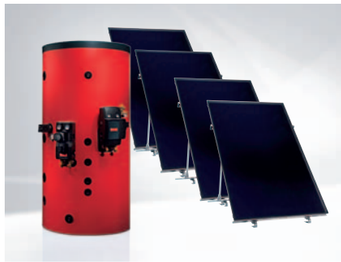
Compact systems allow solar installations to be integrated very easily and inexpensively. The systems are available for both solar water heating and heating backup supplies. With these in place, the sun provides up to 80% of the energy for water heating and up to 50% of the energy for heating backup supplies.

Water heating systems: 60-80% solar energy

System solution with the Hoval SolarCompact

The Hoval SolarCompact solar storage tank comes with a complete set of solar fittings already integrated and offers winning features like its space-saving design and simple installation concept.
The solar installation is easy to control in combination with a Hoval heat generator thanks to the TopTronic® T control.

Water heating and heating backup supply systems: 60-80% and 20-50% solar energy



System solution with the Hoval CombiSol combination storage tank

The CombiSol combination storage tank is a buffer storage tank with a set of solar fittings and integrated water heater. As is usual in dual storage tank systems, it ensures a constant and reliable supply of hot water.
The solar installation is easy to control in combination with a Hoval heat generator thanks to the TopTronic® T control.

System solution with the Hoval VarioVal central heating unit

The central component of this system solution is the VarioVal, a compact buffer storage tank with an integrated instantaneous water heater that has all its technical components already built in, including a TopTronic® T control for operating the solar installation and heating system.
In this system, fresh hot water is not produced until it is needed, making it particularly suitable in cases where the level of water demand is irregular and variable. It is also ideal for applications where it is especially important to produce fresh hot water.

Ensuring everything works in perfect harmony is the only way to create a solar energy system that offers maximum efficiency.

A modern solar energy system comprises a variety of components. Ensuring each individual component is of high quality, and that the entire system is installed professionally, is the key to creating an efficient system. And with Hoval, you can get all this from a single source.

UltraSol

Collectors
Whether they are integrated discreetly into the roof, create a design feature on the building envelope, or are mounted on flat roofs, the ready-to-install Hoval solar collectors offer flexible solutions for every situation. The cleverly designed installation kits ensure quick, easy and inexpensive assembly.

TopTronic® T with Solar Key-Module

UVR 61-3

Control
Hoval offers a variety of solar controls in its product range to ensure the solar installation and additional heating system work in perfect harmony:

- TopTronic® T with Key-Module: This solar programming system is supplied ready to plug in and go, and offers the most practical solution for small collector areas and simple control circuits.
- ESR: Universal control for 1 control circuit.
- UVR: Universal control for complex systems with up to 4 control circuits.

SolarCompact ▪ VarioVal ▪ CombiSol

Solar water heater and combination storage tank
These allow solar installations to be integrated very easily and inexpensively. They are available for solar water heating and as a combination storage tank for heating and hot water.

SAG and SAR solar fitting sets

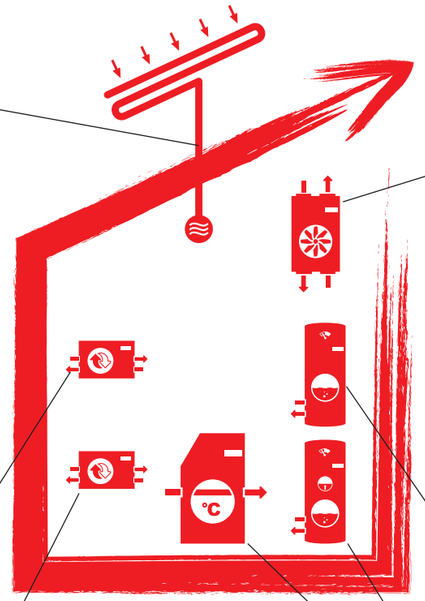
Solex solar charging module

Solar fitting sets and charging modules
These ensure that heat energy is transferred from the solar circuit to the storage circuit as efficiently as possible. The water is stored in layers of different temperatures to accommodate the various temperature requirements of the heating and hot water system circuits, and this increases the efficiency of the system as a whole.

Detailed information can be found in the brochure “Solar energy systems for small and large projects”, or at www.hoval.com

Hoval system solutions. All components from a single source.

Hoval solar energy systems
Combination concepts involving multiple heat generators in a single heating system are taking on an increasingly important role from an environmental and economical perspective. The solar installation for water heating and/or for the heating back-up supply can be integrated easily into a Hoval heating system using the TopTronic®T control and a Key-Module with solar function.



Hoval comfort ventilation
A healthy room environment requires not just heat, but also fresh air. The Hoval HomeVent® solutions provide continuous fresh air flow from outside while also balancing the humidity in the room. User-defined settings allow for individualised climate comfort and efficient balancing of energy within the building.

Hoval flat station
is used to supply individual residential units with heat and hot water conveniently.

Hoval water heaters
provide a reliable hot water supply at the right temperature. They can be integrated into a range of Hoval system solutions and are available in capacities ranging from 200 - 2000 litres.

Hoval fresh water modules
supply hot water in the exact quantities required. They are directly connected to a buffer storage tank and they generate hot water according to the continuous flow principle using a heat exchanger.

Hoval heat generator
In order to manage higher energy demands, the system can be expanded to include an additional heat generator. Hoval has the right devices for all energy sources.

Hoval buffer storage tanks
store the heat energy and keep it ready for use in room and/or water heating.

Hoval system solutions with UltraSol can be used in a wide range of different areas:

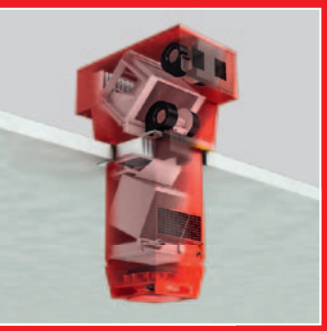
Single family home Renovation | Single family home New construction | Flats | Commercial facilities | Municipal buildings | Industrial facilities

Solutions you can rely on.

Hoval

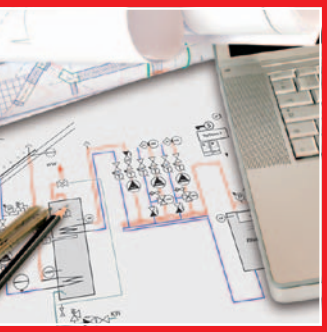
Responsibility for energy and environment.

The Hoval brand is internationally recognised as one of the leading suppliers of indoor climate control solutions. More than 65 years of experience have given us the necessary capabilities and motivation to continuously develop exceptional solutions and technically superior equipment.
Maximising energy efficiency and thus protecting the environment are both our conviction and our incentive. Hoval has established itself as an expert provider of intelligent heating and climate control systems that are exported to over 50 countries worldwide.



Hoval indoor climate systems

Indoor climate systems ensure top air quality and economical usability. Hoval has been installing decentralised systems for many years. The key to its work is using combinations of multiple air conditioning units (even those of different types) that can be controlled individually, but also together as a single system. This enables Hoval to respond flexibly to a wide range of requirements for heating, cooling and ventilation.



Design support from experts.

Take advantage of the expertise of our experienced specialists. We will be happy to support you throughout all project phases when designing your system.
Working in close cooperation with you and taking into account all the specifications of the energy supplier, we develop the most efficient and cost-effective solution for you.

Hoval service expertise.

Hoval systems are professionally commissioned by specially trained and experienced Hoval service technicians, ensuring that the systems will operate perfectly from day one.
Maintenance and troubleshooting are performed on-site by an adept customer service team.

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