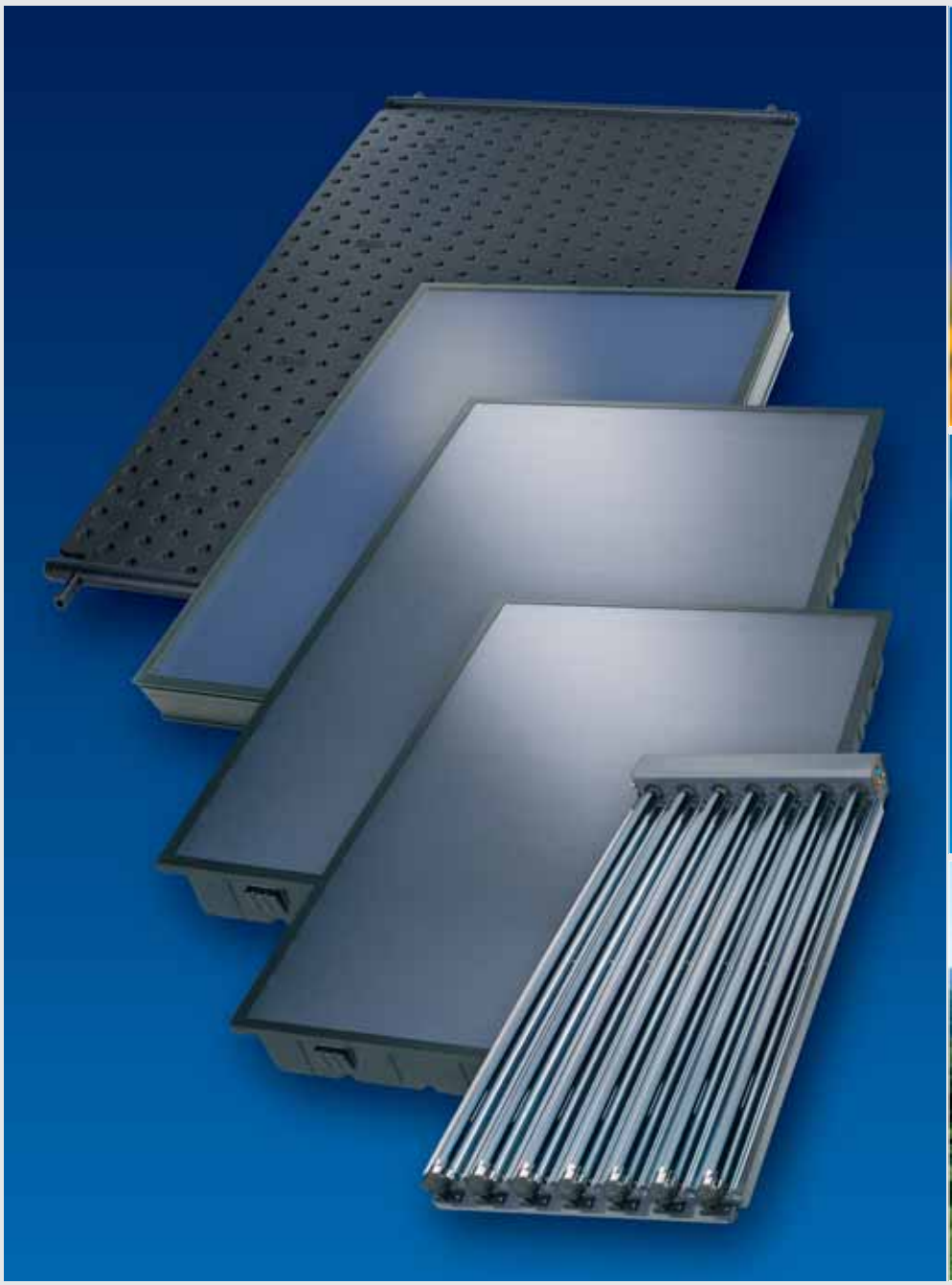
Solar

Solar systems – complete from a single source



... living full of energy

Roth Solar

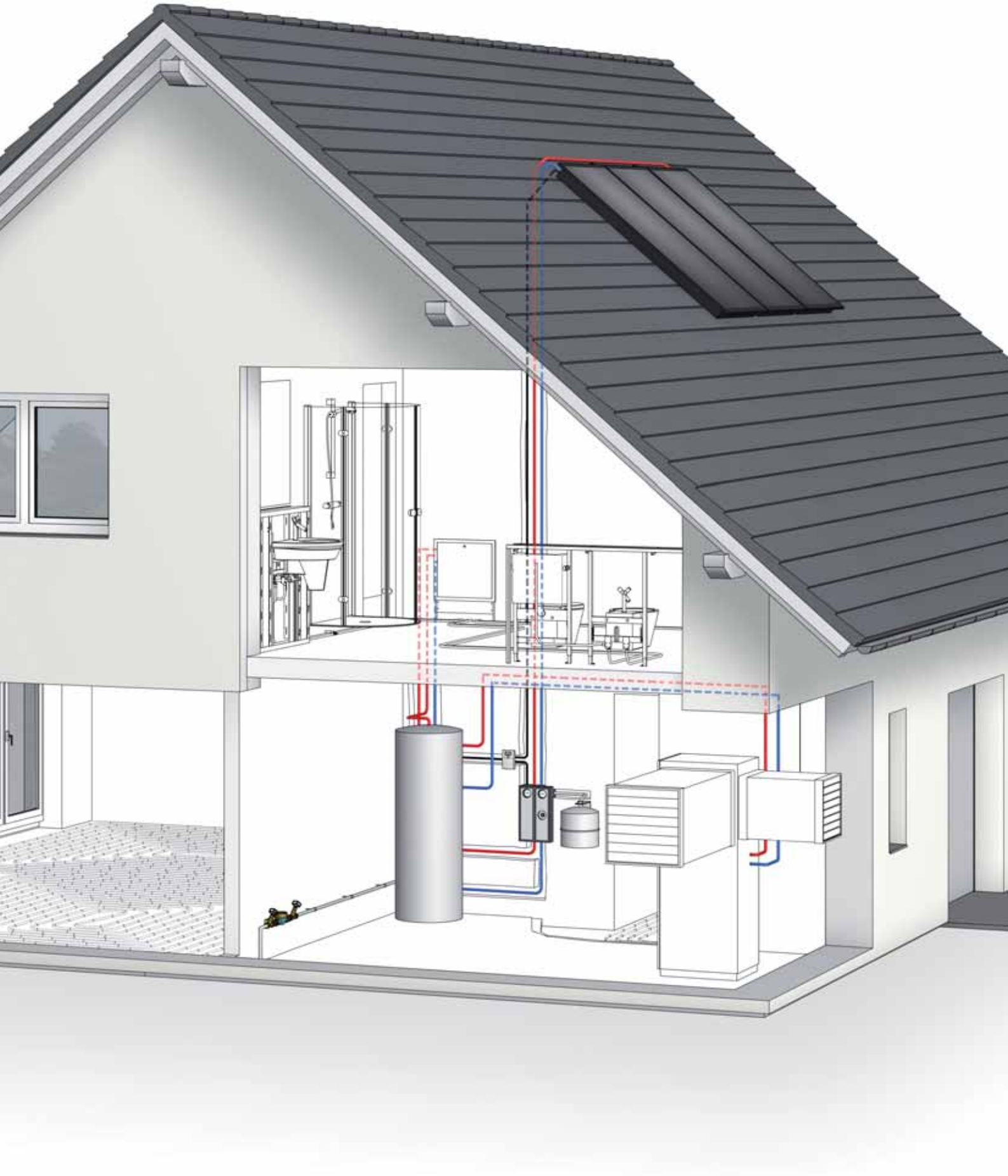
... using the sun with the latest technology

Complete with a system

The sun radiates an immense amount of energy to the Earth. The solar radiation on the globe of half an hour would be enough to meet the worldwide energy demand.
Germany has 1.353 million square metres of technically suitable area available for the usage of solar energy.

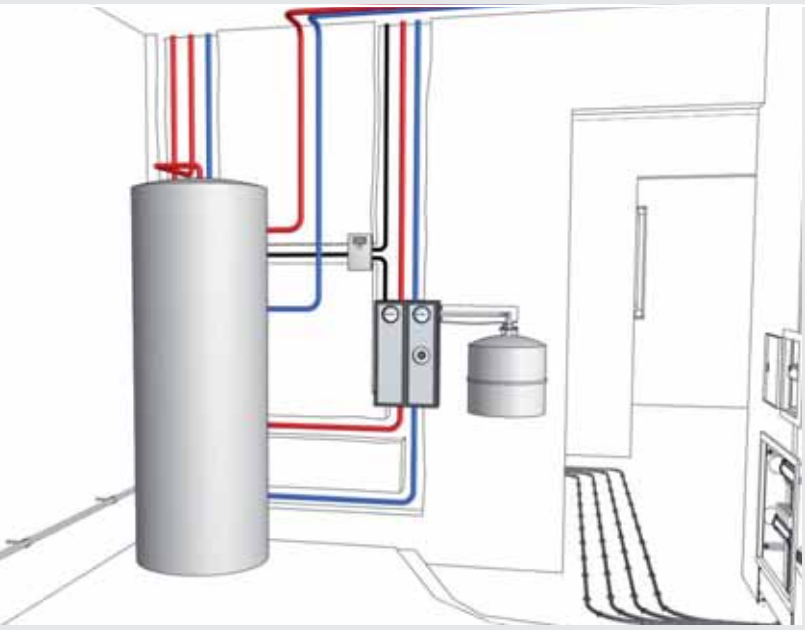
Roth is taking a step into the future with new solar thermal systems, an optimal complementation to the company's proven heat distribution systems and heat pump systems. Solar systems from Roth are complete, high-performance systems. Depending on individual design, they are able to supply up to two thirds of the projected annual median energy requirements needed to provide warm water to a one-family house.

When combined with Roth floor heating systems, the stored solar energy can ideally be used for heating support.



The Roth solar package

... intercoordinated components from a single source



Customised solutions

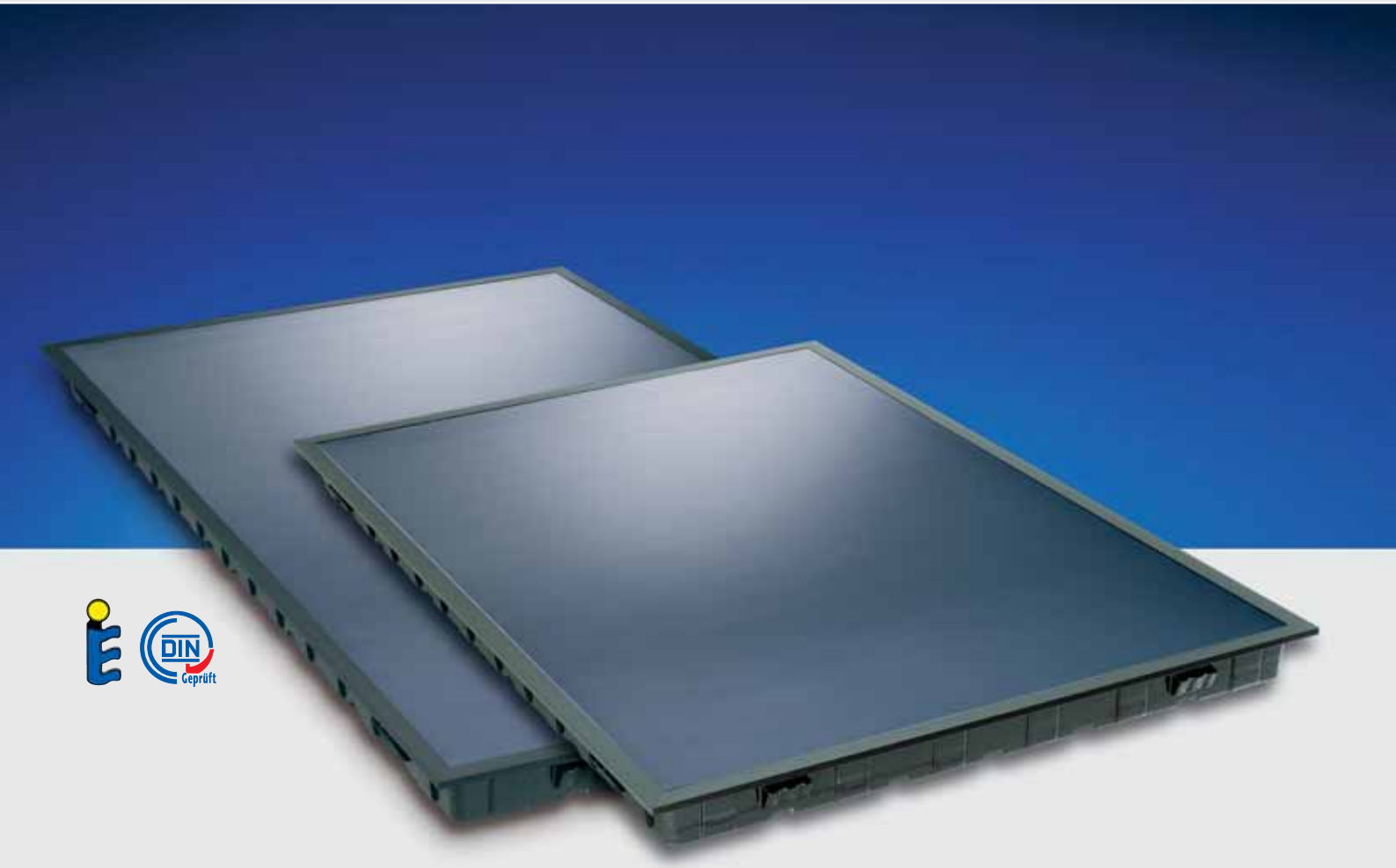
Roth offers ready-to-install systems. From standard installations for service water heating to complex installations for supporting heating systems, you will find the right package for each application on hand with Roth solar collectors, Roth solar station, Roth regulation units and Roth storage tanks.

Components carefully coordinated with one another guarantee optimal operation and reliability. We placed special emphasis on longevity and ease of installation when selecting the materials to be used in the production process.

Optimal results can be achieved with your Roth solar system when used in combination with the Roth heat distribution systems and the Roth domestic water system. The combination with heat pump systems is also possible.
One can thus take advantage of synergy effects within the complete system, while at the same time obtaining a solution customised to individual requirements.

Roth flat collector Heliostar® 218 und 252

... high-tech with innovative polycarbonate case



Optimal heat storage, stability and lightness

Made of a closed polycarbonate case construction, the Roth Heliostar® unites high-tech material and mature technology. Polycarbonate is a perfect insulator. Due to this feature the thick walled polycarbonate case of the Roth Heliostar® assures optimal heat storage. In combination with the high performance absorber the Roth Heliostar® guarantees highest efficiency for decades.

The material is characterised by its special durability, impact strength and temperature resistance and is perfectly suitable for outside usage due to its UV-resistant construction. The variety of usage of polycarbonates shows outstanding material characteristics. Amongst others you can find applications in the aircraft construction and the automotive industry.

Due to the high-tech material the Roth Heliostar® offers long time stability with minimal weight.

The polycarbonate case has additional advantages:
First of all the production only needs low energy input which is more environment-friendly than the production of conventional constructions (aluminium). Second of all the case is permanently corrosion resistant even with high air pollution and aggressive maritime climate. The collector case is deep-drawn in one piece and therefore enduringly tight.

The unique form of the deep-drawn polycarbonate case offers decisive installation and security advantages to the installer.

Easy and secure installation

For easy installation the attachment rails smoothly engage with the grooves in the collector case. Conventional security measures which have to be carried out are integrated in the collector. The installation becomes significantly easier and more secure since the installer does not need to hold the collector on the roof. Furthermore, the distance between the collector and the roof is minimised due to the engagement of the attachment rails and the collector case. The low on-roof installation leads to optimal stability and improved appearance.
With the closed collector case the risk of injury is minimised.

Innovative Roth fast installation system for installation in row

With the innovative Roth fast installation system complicated installation in row becomes a thing of the past. Especially in places where the installer is struggling with difficult access of tools – namely in the space between the collectors in row – Roth offers a significant advantage with the novel clamp attachment element with regard to installation comfort and velocity. The installation of collectors in row is
possible without tools. The new fixing element is already pushed in the C-rail on the ground and can simply be positioned on the roof. The collectors can easily be connected with the Roth fast installation system and ends tightly against one another to create a visible unit.

Roth flat collector Heliostar® 218 und 252

... a good team

Advantages at a glance

Quality case
- extremely stressable polycarbonate case (high impact, temperature, wind and UV-resistance)
- light weight despite its size
- no leakage due to construction, production of one piece
- permanently corrosion resistant

High performance absorber
- high selectively coated full area absorber guarantees highest performance
- perfect connection of the pipes to the absorber plate

Optimal insulation
- thick walled polycarbonate case
- back wall insulation 60 mm

Safety glass
- low-iron solar safety glass, fulfils hail resistance class 1
- double sealing of glass

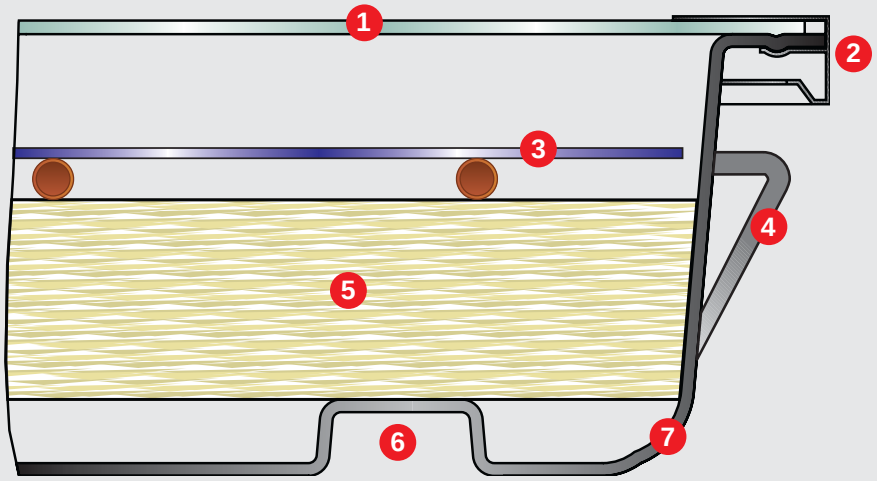
Modern design
- rounded case form without edges and crevices
- dark colour for inconspicuous appearance
- visual unit of collectors in row

Installation advantages
- low weight
- easy on-roof installation by engaging the attachment rail in the grooves in the collector case
- optimal stability and improved optic due to closer on-roof installation
- complete attachment system is not visible after installation
- attachment on the carrying element of the roof, the roof rafter
- Roth fast installation system for comfortable and fast in row installation of collectors without tools
- polycarbonate case without sharp edges
- edge of case in combination with handle troughs in bottom provide best access to the completesurface
- no soldering on-roof necessary since all connections are carried out as flat sealing
- installation friendly accessory

Flexible usage
- on-roof, in-roof, free installation or installed on facades

Comprehensive Roth guarantee
- 10 year Roth system guarantee

Cut of collector



1. highly transparent safety glass
2. revolving aluminium frame
3. high selectively coated full area absorber
4. attachment points
5. 60 mm thick thermal insulation
6. grooves for easy installation
7. collector case made of polycarbonate

The right size for every application

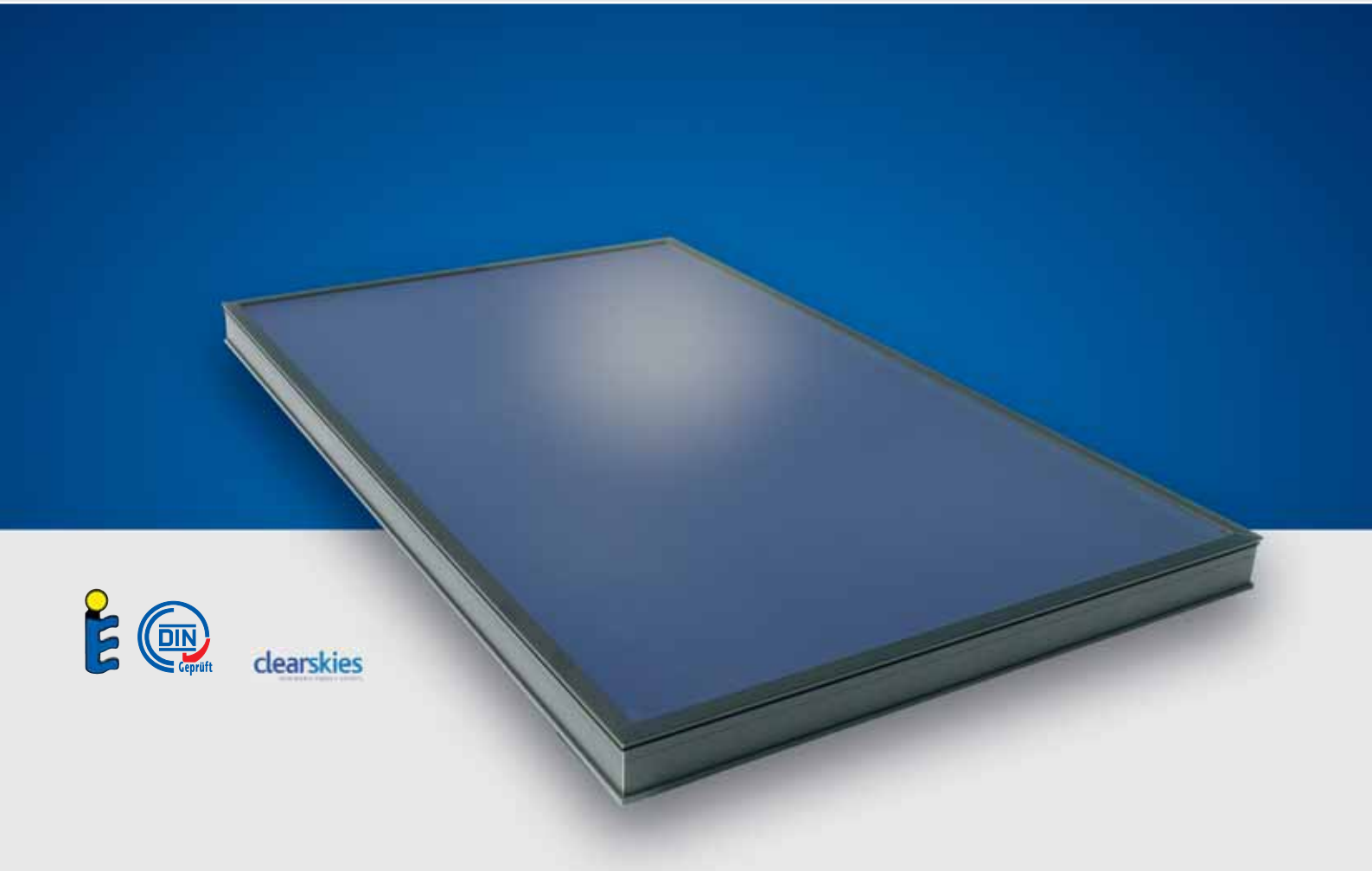
Depending on the application and requirements you can choose between the Roth Heliostar® models.
The Heliostar® 252 has a gross surface area of 2,52 m² and weighs 43 kg and the Heliostar® 218 has a gross surface area of 2,18 m² with a weight of 35 kg.

Technical specifications Roth flat collector Heliostar®

	Heliostar® 252	Heliostar® 218
Length	2100 mm	1820 mm
Width	1200 mm	1200 mm
Height	109 mm	109 mm
Gross surface area	2,52 m²	2,18 m²
Aperture surface area	2,30 m²	1,96 m²
Weight	43 kg	35 kg
Collector case	highly stressable polycarbonate case construction, tight all around due to deep-drawn manufacturing process of one piece, permanently corrosion resistant	
Glass cover	low-iron solar safety glass transmission τ = 91 %	
Absorber	vacuum, high selectively coated full area absorber	
Absorption	α = 95 %	α = 95 %
Emission	ε = 5 %	ε = 5 %
Fluid capacity	1,46 l	1,26 l
Heat transfer medium	solar fluid Heliostar® and F2	
Operation pressure (max)	15 bar	15 bar
Solar sensor sleeve	inside Ø = 6 mm	inside Ø = 6 mm
Collector connection	½“ MT flat sealing	½“ MT flat sealing
Collector yield, per annum	over 525 kWh/m²a	over 525 kWh/m²a
Area of application	domestic water heating and heating support	

Roth flat collector F2

… persuasive high performance



Perfect complementation

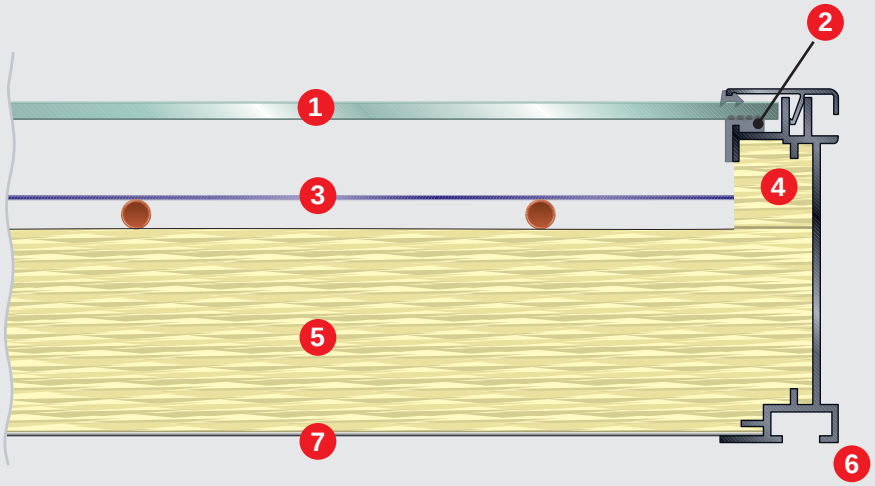
The high-performance Roth flat collector F2 combines modern technology with the highest degree of functionality.
It is the optimal complementation to the Roth flat collector Heliostar® and Roth tube collector R1, completing Roth's collector range.

The optimal design of the high selectively coated full area absorber and the prismatic solar safety glass guarantee rapid collector reaction, even with lower solar radiation.

As a result of its dark anodised aluminium frame, the collector's appearance fits well with any surface and is, thanks to its low weight and well-engineered installation system, extraordinarily easy to install on- or in-roof, on the building or as free installation.

When combined with Roth floor heating systems, the stored solar energy can ideally be used for heating support.

Cut of collector



1. highly transparent safety glass
2. revolving EPDM insulation profile
3. selectively coated full area absorber
4. edge insulation without thermal bridges
5. 50 mm thick thermal insulation
6. integrated installation rails
7. aluminium back wall

Advantages at a glance

Quality case
- high-strength corrosion protected aluminium frame
- non-sensitive structure of the stable aluminium back panel
- 2,18 m2 total area
- resistance against strong wind and loads of snow

High performance absorber
- temperature resistant, high selective coating of the full area absorber guarantees highest performance
- rapid reaction due to computer-optimised absorber design and therefore low level of fluid
- perfect connection of the pipe to the absorber plate ensures ideal heat transmission to the heat transfer medium

Optimal insulation
- 50 mm temperature resistant, revolving rock wool consequently avoids thermal bridges and guarantees highest yields

Safety glass
- low-iron solar safety glass, structured and prismatic, ensures high light transfer and fulfils hail resistance class 1
- double sealing of glass by 2 separate sealing levels

Flexible usage
- on-roof, in-roof, free installation or installed on facades

Installation friendly
- installation friendly accessory
- no soldering on-roof necessary since all connections are carried out as flat sealing
- damage free removal and replacement of glass possible, carried out by installer
- light weight (38 kg)

Comprehensive Roth guarantee
- 10 year Roth system guarantee

Technical specifications Roth flat collector F2

Length	1880 mm
Width	1160 mm
Height	95 mm
Gross surface area	2,18 m²
Aperture surface area	1,98 m²
Weight	38 kg
Collector case	corrosion protected aluminium frame with structured, 50 mm back panel insulation, rock wool
Glass	low-iron solar safety glass transmission τ = 91%
Absorber	heat conducting plate and channel pipe made of copper
Absorber coating	vacuum, highly selective
Absorption	α = 95 %
Emission	ε = 5 %
Fluid capacity	1,15 l
Heat transfer medium	solar fluid Heliostar® and F2
Operating pressure (max)	10 bar
Solar sensor sleeve	inside Ø = 6 mm
Collector connection	½“ MT flat sealing
Collector yield, per annum	over 525 kWh/m²a
Area of application	domestic water heating and heating support

Roth tube collector R1

… marvelous performance

Using the sun efficiently

Light, easy-to-install and extremely high performance. The Roth tube collector R1 is equipped with CPC reflectors which provide optimal sunlight reflection to the glass absorber at any angle of incidence.

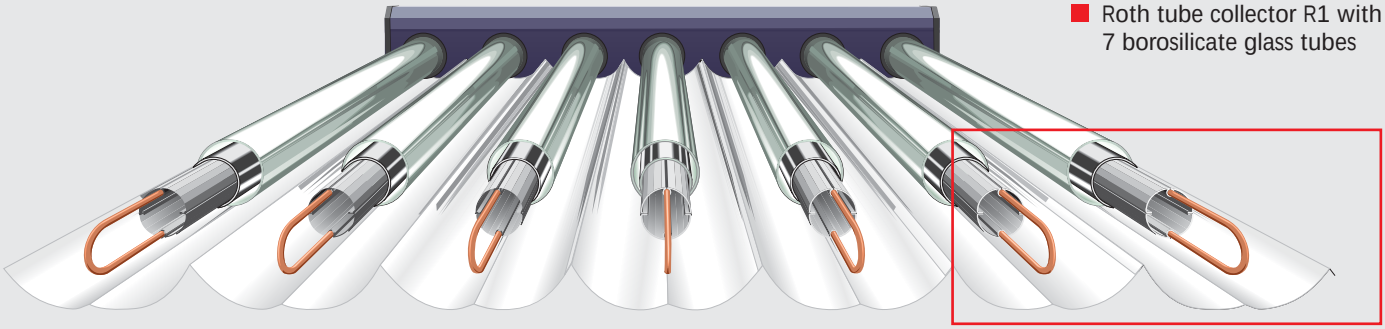
The Roth R1 reflectors are made of corrosion resistant aluminium mirrors with additional acrylic seals – a combination of materials resulting in significant weather resistance.

However, its extraordinary performance capability makes the Roth R1 so exceptional, allowing even low solar radiation of the wintertime to be used for heating purposes.

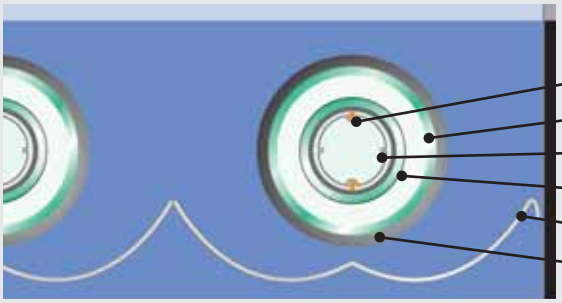
The evacuated glass tubes are not permeated by metal. This means that thermal stress cannot arise from combination of materials.
The borosilicate tubes are characterised by their extremely high resistance to hailstorms and their stability against thermal stress, resulting in an exceptional long service life.

In addition to this, all tubes and reflectors can be replaced individually without having to interfere the hydraulic system.

- highest performance, even in the winter time
- effective even with diffuse solar radiation due to CPC reflectors
- rapid reaction speed
- extremely light weight and easy installation
- long service life
- 10 year Roth system guarantee



Roth tube collector R1 with 7 borosilicate glass tubes



1. absorber pipes
2. hardened borosilicate glass
3. heat conduction plate
4. absorber
5. CPC reflectors
6. EPDM seal

Technical specifications Roth tube collector R1

Length	1650 mm
Width	780 mm
Height	137 mm
Gross surface area	1,3 m^2
Aperture surface area	1,1 m^2
Weight	38 kg
Collector case	aluminium profile, natural silver coating case made of aluminium, 40 mm insulation
Absorber	borosilicate glass tubes, evacuated and selectively coated, glass strength 1,5 mm, individual pipes D1/D2 = 47/37 mm, aluminium heat conduction plates with copper pipe, glass pipes easy to replace
Absorber coating	vacuum, high selective
Absorption	α = 95 %
Emission	ε = 5 %
Fluid capacity	1,15 l
Heat transfer medium	solar fluid R1
Operating pressure (max)	10 bar
Solar sensor sleeve	inside Ø = 6 mm
Collector connection	½“ MT flat sealing
Collector yield, per annum	over 525 kWh/m^2a
Area of application	domestic water heating and heating support

Flexible area of utilisation

- up to 6 Roth R1 modules can be installed together in easy-to-install raw connection due to perfectly matching internal pipework
- on-roof, free installation or installed on facades

On-roof installation

Roth swimming pool absorber HelioPool

... for solar swimming pool heating

Heating swimming pool water with the sun environmental-friendly and economical

As specialist for plastic processing, Roth developed the swimming pool absorber Roth HelioPool made of high-quality high density polyethylene (HDPE) for environmental-friendly and energy saving heating of swimming pool water.
With only one absorber type all installation applications can be realised since 8 variable outlets are available on the absorber.
Therefore easy and fast installation is guaranteed.

Roth HelioPool is characterised by its optimal absorber size of 2,22 m^2 as well as its high degree of efficiency. It is fully flooded, frost-proof, walkable and is suitable to be directly flooded with swimming pool water. The special absorber construction with ideal wall thickness guarantees less pressure loss

Only one model for all connection varieties

Every absorber has 8 connections (4 x 25 mm and 4 x 40 mm) which can variably be used depending on the connection type, therefore only one version is necessary.

All from one source

Roth offers a complete and installation-friendly system including
Roth attachment set for the installation on-roof, connection sets
and Roth solar regulation unit BW.

Roth connection set 40 mm HelioPool

Roth end plug set 25 mm HelioPool

Roth connection set 25 mm HelioPool

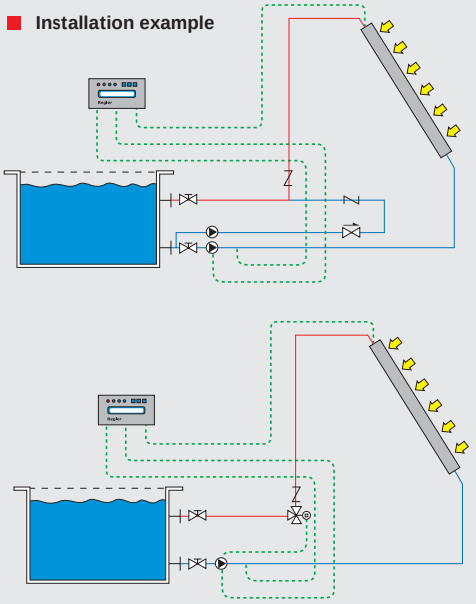
Roth attachment set for on-roof installation

Roth attachment set height-adjustable for on-roof installation

Advantages at a glance

- only 1 absorber type for all installation applications 8 variable outlets are available on the absorber
- optimal absorber size of 2,22 m^2
- horizontal or vertical installation possible
- high degree of efficiency
- fully flooded, frost-proof and walkable
- high-quality absorber material made of HDPE in black
- optimal wall thickness of absorber
- low pressure loss due to special absorber construction
- cost-efficient solution for swimming pool heating
- can directly be flooded with swimming pool water
- complete system including attachment, connections and regulation

Installation example



Technical specifications Roth HelioPool

Length	2000 mm
Width	1100 mm
Height	15 mm
Gross surface area	2,22 m^2
Weight	14 kg
Fluid capacity	16 l
Connections	8 (4 x 25 mm and 4 x 40 mm). Variable use depending on connection type of collectors
Max. pressure	3 bar
Max. operating pressure	1 ± 0,1 bar
Material	HDPE (black)
Quantity of collectors for horizontal connection (max)	8
Quantity of collectors for vertical connection (max)	4

Roth regulation units BW, BW/H and BW/H Komfort

... optimal regulation guaranteed

Advantages at a glance

- multifunctional and efficient regulation
- large-size informative, lighted display
- simple and easy-to-understand control elements
- installation instructions available in 5 languages D, GB, E, F, I

Roth regulation unit BW

Roth regulation unit BW is equipped with a microprocessor operated temperature difference regulation unit for heating domestic water and contains all of the basic regulation functions required for safe and efficient operation of a solar system.

2 PT-1000 sensors are included in the delivery.

The simple and easy-to-understand operation of the regulation unit is carried out through the use of 4 control elements (3 buttons). Improved ease of operation thanks to self-explanatory graphic symbols and the lighted system monitoring display. The solar circuit can be operated automatically or in manual mode.
The Roth regulation unit BW has 1 output (1 x speed controlled) and 4 temperature sensors.

Roth regulation unit BW/H

Roth regulation unit BW/H is a microprocessor operated temperature difference regulation unit with wide applications that was designed for heating domestic water and supporting heating systems. It contains all basic control functions in addition to selectable special functions for facility optimisation.

3 PT-1000 sensors are included in the delivery.

The installation information is shown on the lighted system monitoring display with self-explanatory symbols.
The Roth regulation unit BW/H has 2 outputs (1 x speed controlled, 1 x on/off) and 4 sensors as well as 1 impulse input for measuring quantity of heat, 9 installation schemes pre-installed.

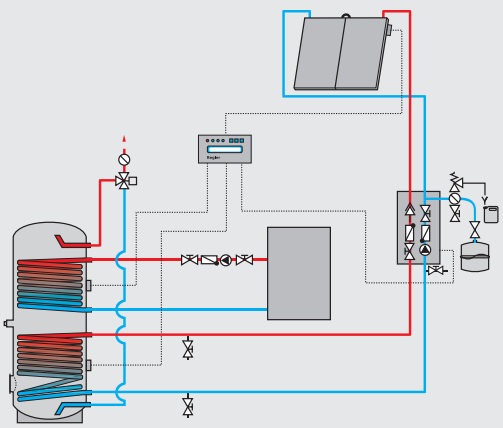
Roth regulation unit BW/H Komfort

Roth regulation unit BW/H Komfort is a microprocessor operated temperature difference regulation unit with a lighted display with wide applications that was specially designed for the combined purpose of heating domestic water and supporting heating systems. It is equipped with all basic control functions in addition to selectable options for facility optimisation heat meter. Optional data stick to save and read operating and measured values, PC interface.

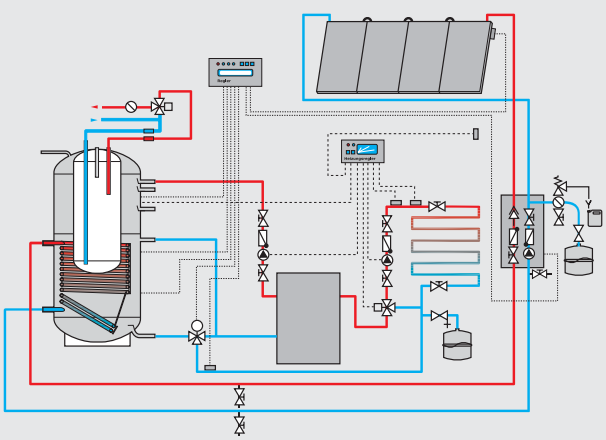
3 PT-1000 sensors are included in the delivery.

Selection of installation designs makes it possible to have simple initial start-up of the regulation unit and to carry out practically all solar thermal applications. The Roth regulation unit BW/H Komfort has 12 sensor inputs, including 2 impulse inputs for measuring quantity of heat, 1 input for optional sun sensor and 9 relay outputs (4 standard, 4 solid state relays for speed control and 1 potential-free relay e.g. for the activation of the boiler).

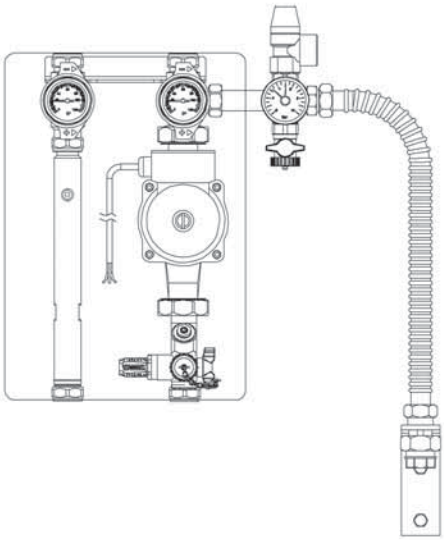
Roth BW solar regulation unit



Roth BW/H solar regulation unit



Roth solar station



Perfectly coordinated with the overall system

The Roth solar station is inspected for leaks before leaving the factory. This saves time and money for the installation.

The special solar pump is suitable for constant temperatures of up to 100°C, and even for maximum temperatures of up to 120°C for short time. The flow meter used was developed for heavy-duty utilisation in solar installations and configured ex-works for water/antifreeze mixtures of 40 - 50 %. In addition it has an extended display range of 2 - 16 l/min!

Advantages at a glance

- individual connection possibilities for 18 and 22 mm copper and precision steel pipes
- integrated filling and rinsing armature
- all materials used have been specially tested for usage in solar installations
- filling and discharging valve
- MAG connection set and wall elbow
- air vent pipe with manual air vent

Technical specifications Roth solar station

Nominal size	DN 25
Controls and fittings	brass
Seals	EPDM/Teflon
Insulation	EPP, multipart
Max. pressure*	10 bar with 100 °C
Sicherheitsventil	Safety valve safety group with safety valve 6 bar and manometer 10 bar
Max. temperature	100 °C continuous/ 120 °C short-term
Flow measurement	2-16 l/min, configured device for water/glycol mixture (40-50% glycol)
Non-return valve	2 (supply + return), integrated into the shut-off valve, mountable, by means of 45° position of the handle
Pump	RS 25 /6 RP 1 1/2“ power consumption: level 1:46 W level 2:67 W level 3:93 W max. lift 6 m max. carrying capacity 4,5 m3/h
Connections	4 x 22 mm 18 mm CU clamp ring screwing
Axis distance	125 mm
Width with insulation	250 mm
Height with insulation	350 mm
Length armoured hose	480 mm
Air vent pipe	

*without safety valve

Roth attachment anchor universal

... all for one

Flexible usage

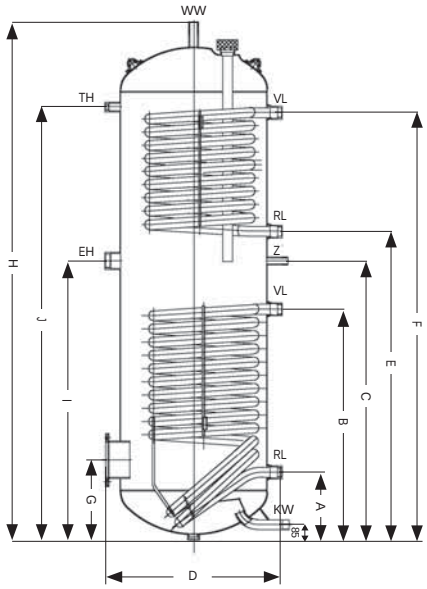
Roth attachment anchors universal are suitable for vertical and horizontal installation of Roth flat collectors Heliostar® 218, Heliostar® 252, F2 and vertical installation of Roth tube collector R1.
They cannot only be fixed to the roof rafter but also directly to the roof laths and are therefore flexible in their application on roof and easily be attached with fast fixing screws.

Advantages at a glance

- Roth attachment anchor universal vertical, flexibly adjustable in length, suitable for Heliostar® 252 and 218 for vertical installation and for F2 for vertical and horizontal installation
- Roth attachment anchor universal horizontal, flexibly adjustable in length and width, suitable for Heliostar® 252 and 218 for horizontal installation
- universal applicable leads to less parts and therefore less storage space
- suitable for all types of roofs
- material made of high quality stainless steel
- low weight due to its special construction
- easy installation due to included fast fixing screws
- flexible in usage on roof since they must no longer be fixed to the roof rafter
- for every tile and thickness of lath applicable, no bedding layer necessary

Heat storage tanks for solar systems

… heated by the sun, stored with Roth



Roth solar storage tank BW 300 and 400

Within the Roth solar storage tanks BW 300 and 400 the heat generated by sun collectors is led to the domestic water via a lower wide surface straight tube heat exchanger. In the upper third of the storage tank is a second wide surface straight tube heat exchanger which heats the domestic water if required with a central-heating boiler. The surface of the inner heat exchanger is particularly large dimensioned. It guarantees an optimal usage of the solar yield and therefore the efficiency of the overall system.
The complete storage tank is protected against corrosion through enamel coating according to DIN 4753 and a magnesium anode.

The installation is very easy. All necessary connections can directly be attached to the storage tank without additional extensions. Every connection is a flat sealing. For demand oriented loading of the storage tank and the therefore required position of the storage tank sensor, immersion sleeves are attached to the storage tank. A thermometer, blind flange and flange insulating hood are pre-assembled in the factory. Height adjustable feet assure secure set-up even on rough grounds.

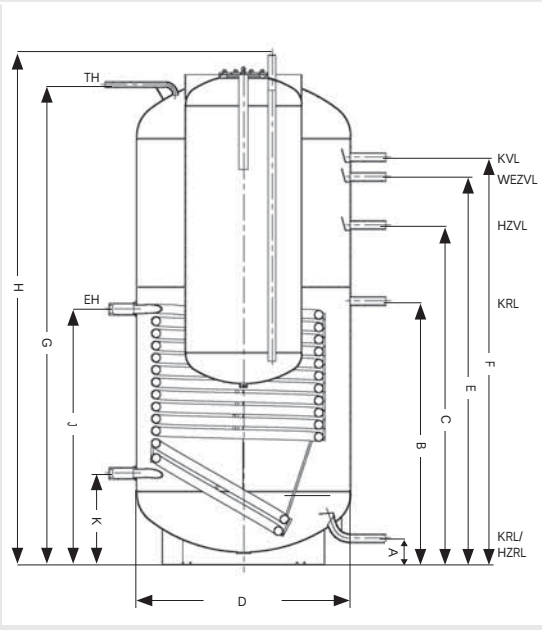
For minimising heat loss the Roth solar storage tank BW is covered by a high-quality, strong and CFC-free 50 mm thick PU insulation.

Advantages at a glance

- long-lasting and robust
- corrosion resistant due to enamel coting according to DIN 4753 and magnesium anode
- optimal heat insulation
- installation friendly
- optimal useable volume
- height-adjustable feet

Technical specifications
Roth solar storage tank BW 300 and 400 l

	300	400
Total volume	300 l	400 l
Diagonal height	1838 mm	1894 mm
Weight	131 kg	158 kg
Dimensions (see graphic)		
A = return solar WT	263 mm	320 mm
B = supply solar WT	836 mm	880 mm
C = circulation	963 mm	1000 mm
D = diameter	610 mm	680 mm
E = return heating WT	1083 mm	1100 mm
F = supply heating WT	1443 mm	1460 mm
G = revision flange	305 mm	345 mm
H = height	1790 mm	1839 mm
I = screw-in pipe coupling	983 mm	983 mm
J = thermometer	1507 mm	1521 mm
NL- value (above/below)	1,8/7,5	3/11
Radiation value	2,3 kWh/24h	2,5 kWh/24h
Operating pressure	10 bar	10 bar
Test pressure	15 bar	15 bar
Operating pressure tank	95 °C	95 °C
Operating pressure WT	110 °C	110 °C
Heat exchanger (WT solar)	1,5 m^2	1,8 m^2



Roth solar combi storage tank 750 and 900

The Roth solar combi storage tank is designed for the combined usage of drinking water and heating support. This is possible due to the special construction according to the principle “storage tank in a storage tank”. Both storage tanks are made of a closed unit. The inside storage tank is for storing and heating drinking water, the water of the outside tank is for the circulation in the heating system. The inner tank is covered with an enamel coating and additionally protected against corrosion by a magnesium anode.

For optimal usage of the solar yield it is led into the Roth solar combi storage tank via a lower wide surface straight tube heat exchanger. The perfect heat insulation is guaranteed by the 100 mm thick detachable soft foam insulation with plastic coating outside.
For demand oriented loading of the storage tank and the therefore required position of the storage tank sensor, 2 double sensor channels are attached to the outside storage tank.

Advantages at a glance

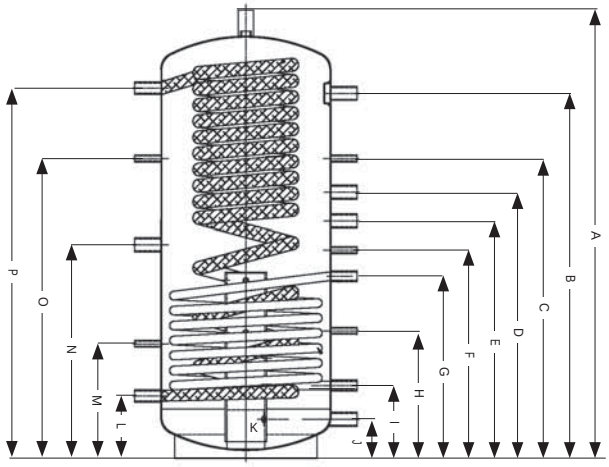
- storage tank in storage tank principle
- minimum heat loss due to thick insulation
- double corrosion protection due to an enamel coating and a magnesium anode
- optimal useable volume
- easy installation

Technical specifications
Roth solar combi storage tank 750 and 900 l

	750	900
Total volume	750 l	900 l
Drinking water volume	150 l	200 l
Diagonal height	2000 mm	2200 mm
Height with insulation	1905 mm	2120 mm
Diameter with insulation	990 mm	990 mm
Weight	218 kg	256 kg
Dimensions (see graphic)		
A = return boiler/heating water	95 mm	95 mm
B = return boiler	970 mm	1175 mm
C = supply heating water	1170 mm	1375 mm
D = diameter without insulation	790 mm	790 mm
E = 2nd heat generator supply	1400 mm	1615 mm
F = supply boiler	1500 mm	1715 mm
G = air vent	1767 mm	1982 mm
H = height connection above	1877 mm	2092 mm
I = solar supply	1877 mm	2092 mm
J = thermometer	335 mm	335 mm
NL- value according to DIN 4708	4,0	6,5
Operating pressure	10 bar	10 bar
Test pressure	15 bar	15 bar
Operating pressure tank	95 °C	95 °C
Operating pressure WT	110 °C	110 °C
Heat exchanger (WT)	2,55 m^2	3,15 m^2

Heat storage tanks for solar systems

… heated water from sun energy



Roth solar combi stratified storage tank 500, 800 and 1000

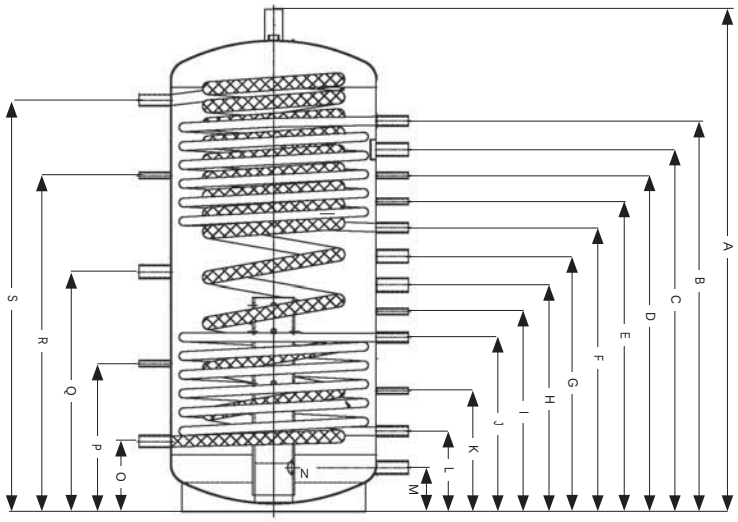
The Roth solar combi stratified storage tank is designed for domestic water and heating support. Due to its special construction for securing a permanent temperature layering of the heated water it achieves a high efficiency.
The heating buffer storage tank is equipped with an integrated stainless steel corrugated hose for heating the drinking water in constant flow method. The heating of the drinking water is free of legionella and in accordance with DVGW working paper 551 due to constant, subsequent delivery of fresh water.

The optimal temperature layering is guaranteed by a wide surface straight tube heat exchanger. For solar combi stratified storage tanks 800 and 1000 the solar yield can be supplied by the lower heat exchanger as well as the second heat exchanger located in the upper third.
It therefore ideally supports the temperature layering. Additionally the integrated layer loading pipe for heating water return support contributes to optimal temperature layering.

If the solar yield is not sufficient it can be post heated with another energy generator. The flexible hydraulic integration of the solar combi stratified storage tank is achieved via free available connections.
For heat insulation the solar combi stratified storage tank is equipped with a detachable CFC-free soft foam insulation in a PVC protection cover.
The insulation thickness of the Roth solar combi stratified storage tank 500 is 100 mm and for the solar combi stratified storage tanks 800 and 1000 it amounts to 120 mm. The integrated thermometer allows exact reading of the respective actual temperature of the heat storage tank.

Advantages at a glance

- combi stratified storage tank: high efficiency due to temperature layering
- heating buffer storage tank with integrated stainless steel corrugated hose
- wide surface straight tube heat exchanger
- integrated layer loading pipe
- thick heat insulation through soft foam insulation with PVC protection coating
- integrated thermometer



Technical specifications Roth solar combi stratified storage tank 800 and 1000

	800	1000
Total volume	805 l	897 l
Buffer storage tank volume	750 l	842 l
Drinking water volume	55 l	55 l
Weight	195 kg	210 kg
Diameter without insulation	790 mm	790 mm
Diameter with insulation	1030 mm	1030 mm
Height without insulation	1830 mm	2010 mm
Height with insulation	1930 mm	2110 mm
Diagonal height	2005 mm	2185 mm
Storage material	St 37.2	St 37.2
Drinking water constant flow storage tank	V4A	V4A
Upper/lower solar heat exchanger	Glattrohr	Glattrohr
Upper solar heat exchanger	2,0 m^2	3,0 m^2
Lower solar heat exchanger	3,0 m^2	3,5 m^2
Layer loading pipe	St 37.2	St 37.2
Appr. operating pressure buffer storage tank	3 bar	3 bar
Appr. operating pressure TW constant flow storage tank	6 bar	6 bar
Appr. operating pressure	95 °C	95 °C
NL- value	3,2 l	4,0 l
A = air vent 1" IG	1930 mm	2110 mm
B = upper solar heat exchanger VL 1" IG	1500 mm	1680 mm
C = free availabler ½" IG	1390 mm	1520 mm
D = upper temperature sensor solar ½" IG	1290 mm	1450 mm
E = temperature sensor post heating ½" IG	1190 mm	1330 mm
F = upper solar heat exchanger RL 1" IG	1090 mm	1210 mm
G = free available 1 ½" IG	980 mm	1060 mm
H = free available 1 ½" IG	870 mm	950 mm
I = temperature sensor return increase 1 ½" IG	770 mm	840 mm
J = lower solar heat exchanger VL 1" IG	670 mm	730 mm
K = lower solar sensor ½" IG	465 mm	495 mm
L = lower solar heat exchanger RL 1" IG	310 mm	310 mm
M = free available 1 ½" IG	170 mm	170 mm
N = layer loading pipe 1½" IG	170 mm	170 mm
O = cold water connection 1 ¼" IG	270 mm	270 mm
P = free available ½" IG	570 mm	580 mm
Q = electric immersion heater 1½" IG	920 mm	1130 mm
R = free available ½" IG	1290 mm	1760 mm
S = warm water connection 1 ¼" IG	1580 mm	1760 mm

Technical specifications Roth solar combi stratified storage tank 500

Total volume	448 l
Buffer storage tank volume	443 l
Drinking water volume	45 l
Weight	112 kg
Diameter without insulation	650 mm
Diameter with insulation	850 mm
Height without insulation	1640 mm
Height with insulation	1720 mm
Diagonal height	1785 mm
Storage material	St 37.2
Drinking water constant flow storage tank	V4A
Lower solar heat exchanger	2,3 m^2
Layer loading pipe	St 37.2
Appr. operating pressure buffer storage tank	3 bar
Appr. operating pressure TW constant flow storage tank	6 bar
Appr. operating pressure	95 °C
NL- value	1,6
A = air vent 1" IG	1720 mm
B = free availabler 1½" IG	1400 mm
C = temperature sensor post heating ½" IG	1150 mm
D = free availabler 1½" IG	1020 mm
E = free available 1½" IG	910 mm
F = sensor RAS ½" IG	800 mm
G = solar heat exchanger VL 1" IG	700 mm
H = solar sensor ½" IG	490 mm
I = solar heat exchanger RL 1" IG	280 mm
J = free available 1 ¼" IG	150 mm
K = layer loading pipe 1 ¼" IG	150 mm
L = cold water connection 1 ¼" IG	240 mm
M = free availabler ½" IG	440 mm
N = electric immersion heater 1½" IG	820 mm
O = free availabler ½" IG	1150 mm
P = warm water connection 1 ¼" IG	1420 mm

Roth Plastic & Building Technology

... international

Roth Werke, Dautphetal, Germany
Austria, Krems • Belgium, Bertem • Canada, Beloeil, QC • China, Shanghai • Czech Republic, Brno • Denmark, Slangerup • Finland, Parainen • France, Lagny sur Marne
Great Britain, Taunton • Greece, Athen • Hungary, Budapest • Italy, Groppoli • Latvia, Riga • Netherlands, Delft • Norway, Baerum • Northern-Ireland, Carrickmore • Poland, Zielona Góra
Romania, Timisoara • Russia, Moskau • Serbia, Belgrad • Slowenia, Ljublijana • Spain, Tudela • Sweden, Malmö • Switzerland, Kreuzlingen • USA, North Kingstown, RI

Innovation operformance:

- early recognition of market requirements for formulating new product, system and service concepts
- in-house material research and development with the goal of supplying the market with products that are both of high quality and technically perfect
- in-house engineering for the development of product and materials processing
- systematic development of existing product programs in close cooperation with our customers

Product characteristics:

- complete and easy-to-assemble product systems
- manufacturing competence for the complete product program within the corporate group of Roth Industries
- all products and product systems are manufactured and tested in accordance with DIN ISO 9001 and are in compliance with relevant standards and approvals

Service:

- comprehensive, qualified service, on site consultation for technical and commercial questions
- in-plant training courses, planning and product seminars conducted on a continuous basis
- fast availability of all Roth product program throughout Europe
- guarantee services and continued liability agreements for all products and product systems

ROTH WERKE GMBH
Am Seerain 2 • 35232 Dautphetal
Telefon 0 64 66/9 22-0 • Telefax 0 64 66/9 22-1 00
E-Mail service@roth-werke.de • www.roth-werke.de

HAND WERKER MARKE MEISTERKLASSE

TÜV CERT DIN EN ISO 9001:2000

SHK ZERT

Material No.: 1180002251 5607 BE Subject to technical modification.