

ROTEX Sanicube: Combination of water colorifier and flow water heater.



ROTEX Sanicube:

The hygiene high efficiency
hot water accumulator.

ROTEX

Fresh hot water - more important then ever.

hot and fresh water is indispensable for every household. Whether for showering, bathing, cooling or washing our hands. Having available hot water in the desined quantity and

temperature is an essential element of our modern life. It is taken for granted that this water thereby is hygienic.

Today conventional water calorifier can often not meet with these requirements.

There for, our special attention is directed on the water hygiene ! The ROTEX Sanicube is developed on the basis of the latest principles of water hygiene and heating technology. Its construction is totally different to all common hot water calorifiers.

ROTEX Sanicube combines the advantages of a hot water calorifier and a flow water heater.

Hygienically optimised water should be granted every day.

ROTEX Sanicube
The high efficiency -
hot water calorifier

- Optimised water hygiene
- High comfort

Construction and function

Clear separation between drinling water and storage tank water.

ROTEX Sanicube is a coutination of hot water calorifier and flow water heater. Thereby the heat is not stored in the drinling water, but in the clear separated storage tank water. The drinling water content is relatively low and is of 24-80 L depending on the storage tank type. The total storage tank content is of 500 L. According to this is the heat quality, which can be stored and also can be taken out.

Heat calorifier and flow water heater

The storage water is filled ouce a time when putting into operation and serves only for heat storage. It is not exchanged and not consumed.

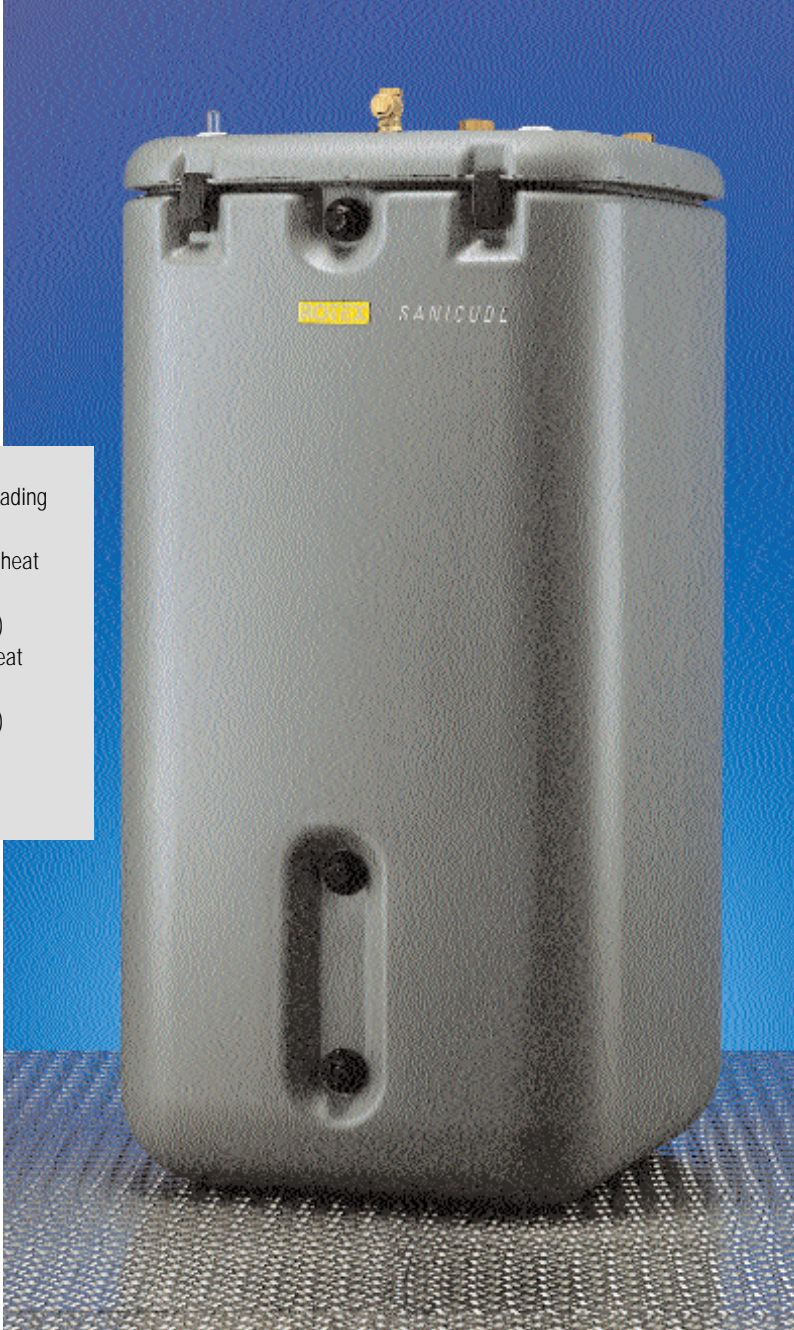
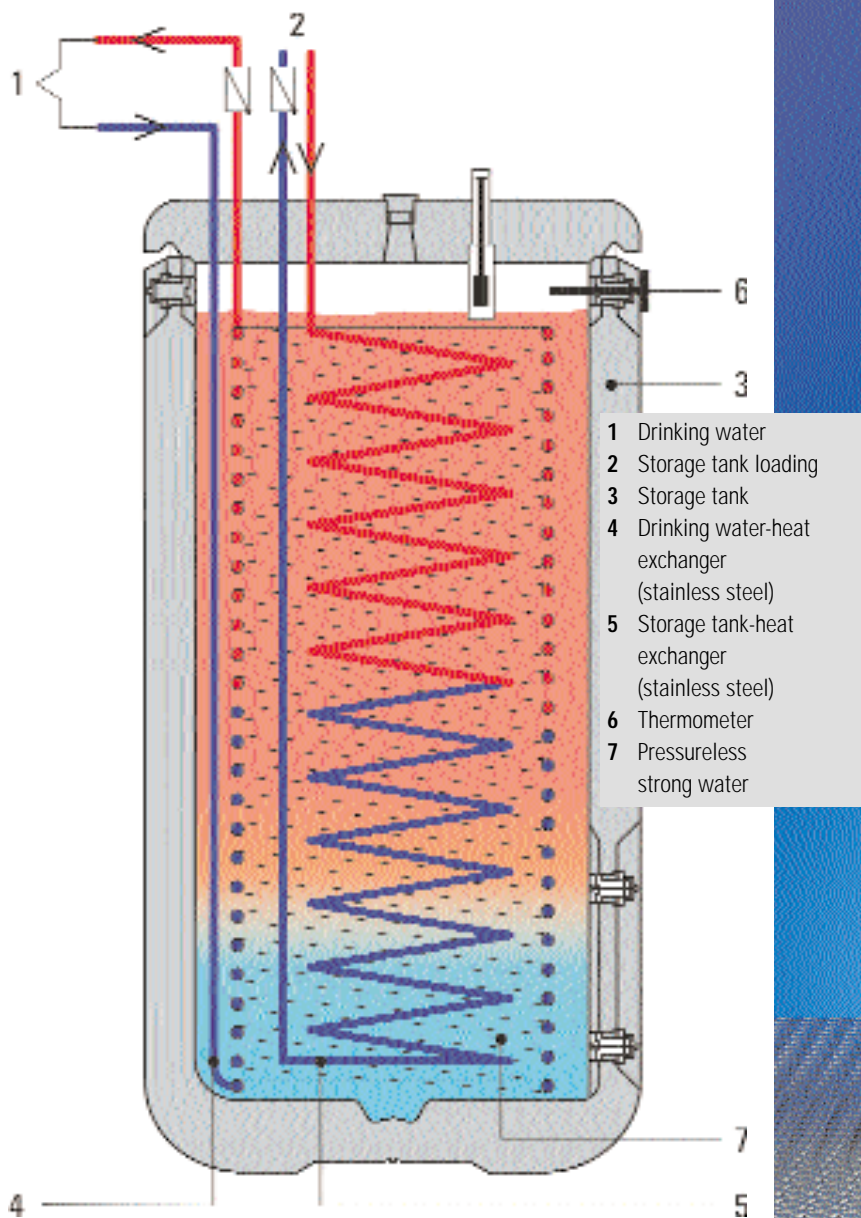
The storage tank is completely made of plastic, internal and eyternal wall made of shock proofed and shock resistant polypropylen (PP), the reeo between is foamed high heat insulating. Consequentially it results very good heat insulating values and minimum surface losses.

The heating of storage tank water and there with the loading of the storage tank can be effected in different ways:

- a With heating water (oil-,gas-, solid-,boiler or district heating) thought a stainless steel heat exchanger.
- b With solar energy, direct heating of the storage tank water throught the ROTEX Solaris-system.
- c With an electric element (alternatively 2.4 or 6 or 12 KW).

The hot water (drinking water) is heated up in an internal tube register-heat exchanger (stainless steel or PEX, depending on the type), which is immersed in the strong tank water.

ROTEX Sanicube
combines the advantage
of a instantaneous
water heater with the
advantage of a heat
calorifier



Hygienically optimised water

Slow flowing or inadequately heated zones of domestic water are completely exchanged with the ROTEX Sanicube. The domestic water is only led through the PEX heat exchanger, meaning that deposits of sludge, rust or other sediments, which can occur in large capacity tanks, can not arise.



Legionella:

There are approx. 35 types of legionellas. At least 17 thereof are pathogenic. Pontiac fever: symptoms similar to influenza, fade away after a few days. Legionnaires' disease: strong, bacterial inflammation of the lungs. Approx. 15 - 20 % of the infected people are dying due to this disease.

Water which is stored first is also discharged first (First-in-frist-out principle). The hygienic advantages of the ROTEX Sanicube are considerable. These facts are also supported by an investigation carried out by the Institute of Hygiene at the University of Tuebingen.

From experience well

Since 25 years ROTEX manufactures calorifiers according to this principle for optimised water hygiene. For all storage tank generations the construction was choosed in that way, that the heated up drinking water has only short staying times in the storage tank. Thus it can not arise sedimentations (lime, mud or rust) in the drinking water under this specifications the Sanicube has been constantly optimised.

Stainless steel (INOX) or plastic (PEX) - You have the choice.

Sanicube INOX

The heat exchanger, where the drinking water is of the Sanicube INOX is made of stainless steel (INOX). It is the high efficiency type and works always as a layering storage tank. This it can produce with the same storage tank temperature a maximum of hot water.

Due to the pronounced temperature layerings the Sanicube INOX is ideal as a solar storage tank in combination with the pressureless ROTEX Solaris-System.

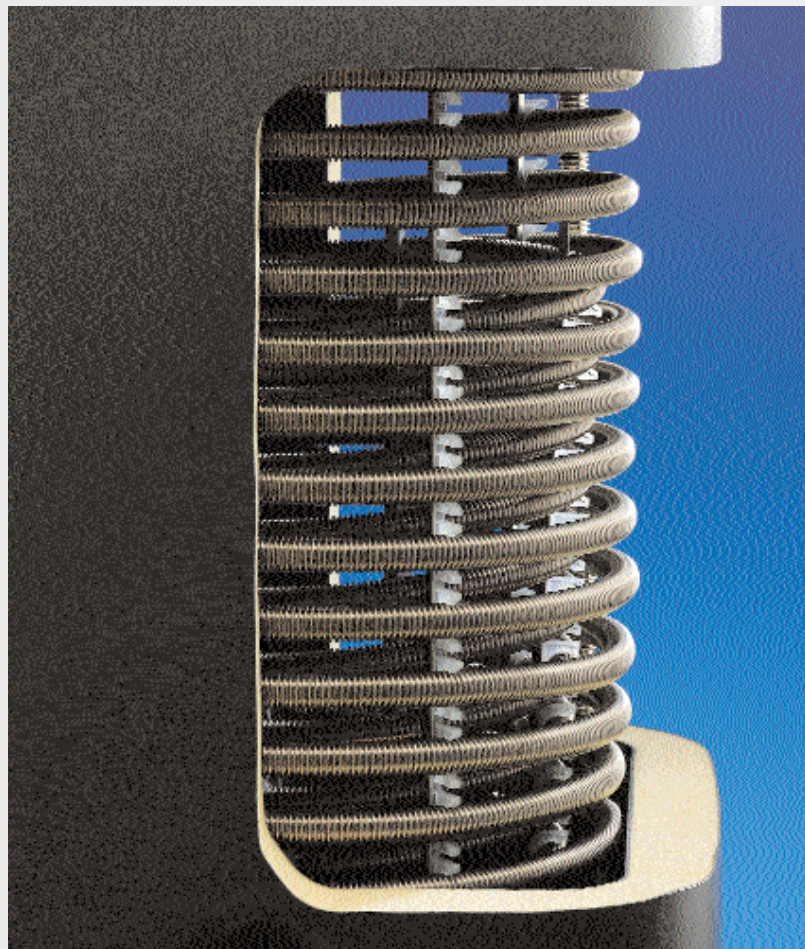
Water is not always equal water

A few water qualities react aggressively with stainless steel. Ask your specialized craftsman or your waterworks, if there arise corrosion problems when using a hot water storage tanks made of stainless steel in your area.

For high-aggressive water qualities we offer you the since many years approved:

Sanicube PEX

The heat exchanger, for drinking water, of the Sanicube PEX is absolutely noncorroding, as there is no metal used for it. The hot water (drinking water) is heated up in a plastic pipe-



heat-exchanger (PEX), which is completely surrounded by storage tank water. The temperature layering in this storage tank type is not that cooled down in the lower zone of the Sanicube INOX. Nevertheless the Sanicube PEX offers all advantages of the Sanicube principle. Beyond it is absolutely noncorroding. In areas with highly aggressive fresh water (e.g. salt containing or ferrous) the Sanicube PEX is the ideal solution.





Low energy consumption is importa

An important measure for the valuation of a calorifier is the surface-heat loss.

Due to the used storage tank material (PP) and the all-embracing heat insulation with PU-foam these heat losses remain minimally.

With a middle storage tank temperature of 58 °C and an ambient air temperature of 20 °C, the heat loss is only of 82 W, that corresponds to a reduction in temperature of the storage tank water of only 35 degrees per day.

Thereby the heat energy input for the hot water production keeps low. That saves precious energy.

Minimal timescale

The storage tank is filled when putting into operation with fresh water, without using additives. That water serves as heat storage medium and is not changed during the operation. So it can only arise on the side of the storage tank water one-time the timescale contained in the water quantity. All heat exchanger pipes which are in the storage tank therefore keep timescale-free, as well as the immersion heat element offered as an alternative.

Also at the inside of the heat exchanger pipes it exist only a slight appearance of calcification due to the high flow velocity. Do you have in your area fresh water with specially high hardness grade, it is recommendable, to install in front of the Sanicube a physical water softening.

Modular storage system

Also a bigger water demand can be covered with a ROTEX Sanicube. For that purpose various ROTEX Sanicube-storage tanks are modularly connected together. Thus it can be created storage and output capacities of nearly any size. At the side of heating and hot water the individual Sanicube-storage-tanks are connected, so that a smooth output distribution is reached. (Tichelmann-Principle)

More information about big systems can be found in the separate brochure "ROTEX Sanicube-hygienic high-efficiency-hot water systems".

ROTEX Sanicube Solaris – solar energy for hot water and heating

In connection with the pressureless solar system ROTEX Solaris the power of the sun is high effectively used.


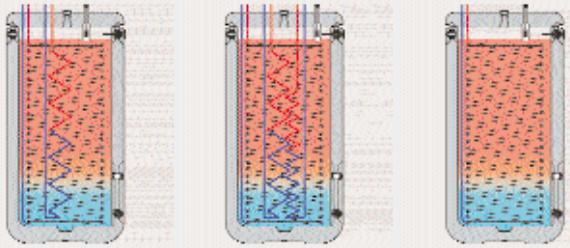
- for the hot water preparation
- for the heating support
- for the least heat losses
- minimal maintenance expenditure
- for perfect water hygiene
- and practically unrestricted water comfort.

Further information you can find in the brochure "ROTEX Solaris"

Durable and safe

Hot water hygiene and hot water comfort are for all of us basic needs. We should not accept any compromises.

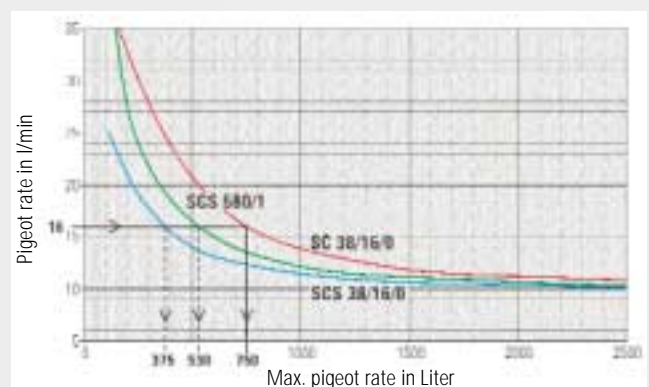
ROTEX Sanicube meets those requirements without any limits. Due to the used materials (plastic and stainless steel) the ROTEX Sanicube is especially durable and supplies you with hot and hygienic water for many years.

| Technical data Sanicube and Sanicube Solaris | | Sanicube INOX | | |
|---|----------------|--|-----------------|-----------------|
| | | SC 38/16/0 | SC 38/16/16 | SC 38/0/0 |
|  | |  | | |
| Basic data | | | | |
| Total storage tank content | litre | 500 | 500 | 500 |
| Empty weight | kg | 84 | 90 | 78 |
| Total weight when filled | kg | 584 | 590 | 578 |
| Dimensions (L x W x H) | cm | 79 x 79 x 159 | 79 x 79 x 159 | 79 x 79 x 159 |
| Max. permitted temperature of the storage water | °C | 85 | 85 | 85 |
| Standby heat expenditure | kWh/24h | 1,4 | 1,4 | 1,4 |
| Maximal operating pressure | bar | 10 | 10 | 10 |
| Material of the drinking water heat exchanger | | Stainless steel | Stainless steel | Stainless steel |
| Domestic water heating | | | | |
| Domestic water content | litre | 24,5 | 24,5 | 24,5 |
| Surface of domestic water heat exchanger | m ² | 5,5 | 5,5 | 5,5 |
| Middle specific heat efficiency | W/K | 2470 | 2470 | 2470 |
| Storage tank loading – heat exchanger (stainless steel) | | | | |
| Water content heat exchanger | litre | 10,4 | 10,4 | – |
| Surface loading heat exchanger | m ² | 2,3 | 2,3 | – |
| Middle specific heat efficiency | W/K | 1040 | 1040 | – |
| Storage tank loading – heat exchanger 2 (stainless steel) | | | | |
| Water content heat exchanger | litre | – | 10,4 | – |
| Surface loading heat exchanger | m ² | – | 2,3 | – |
| Middle specific heat efficiency | W/K | – | 1040 | – |
| Solare Heizungsunterstützung (Edelstahl) | | | | |
| Water content heat exchanger | litre | – | – | – |
| Surface loading heat exchanger | m ² | – | – | – |
| Middle specific heat efficiency | W/K | – | – | – |
| Heat technical / Thermal efficiency data | | | | |
| Efficiency key number N_L accord to DIN 4708 ²⁾ | | 4,1 | 4,4 | 4,1 |
| Continuous output Q_D accord to DIN 4708 | kW | 35 | 50 | 35 |
| Max. pigeot rate for the time of 10 min. with 35 KW with ($T_{KW} = 10\text{ °C}/T_{WW} = 40\text{ °C}/T_{SP} = 60\text{ °C}$) | l/min | 30 | 31 | 30 |
| Hot water quantity without retreating with 15 l/min pigeot rate ($T_{KW} = 10\text{ °C}/T_{WW} = 40\text{ °C}/T_{SP} = 60\text{ °C}$) | litre | 412 | 412 | 412 |
| Hot water quantity with reheating with an output of 20 KW and 15L/min pigeot rate ($T_{KW} = 10\text{ °C}/T_{WW} = 40\text{ °C}/T_{SP} = 60\text{ °C}$) | litre | 837 | 843 | 837 |
| Short term water quantity in 10 min. | litre | 300 | 310 | 300 |
| Pipe connections | | | | |
| Cold- and hot water | inch | 1" male | 1" male | 1" male |
| Heating flow- and return | inch | 1" male | 1" male | 1" male |
| Ref.no. | | 16 50 16 | 16 50 17 | 16 50 15 |

- Suitable for solar-operation with ROTEX Solaris
- With retreating with 35 KW, 80 °C flow temp. 65 °C storage tank temp. 45 °C hot water tem. and 10 °C cold water temp.

Hot water efficiency in dependency to the pigeot rate

- storage tank temp. 60 °C
- spigeot temp. 40 °C
- Boiler output 20 KW
- Cold water temp. 10 °C



Sanicube Solaris INOX 1)

Sanicube PEX 1)

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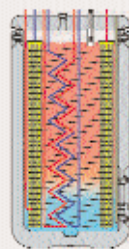
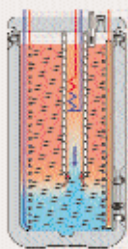
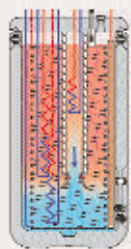
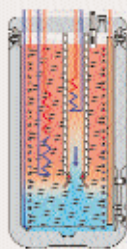
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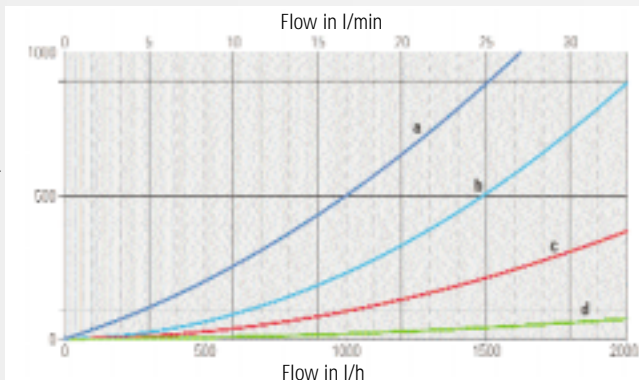
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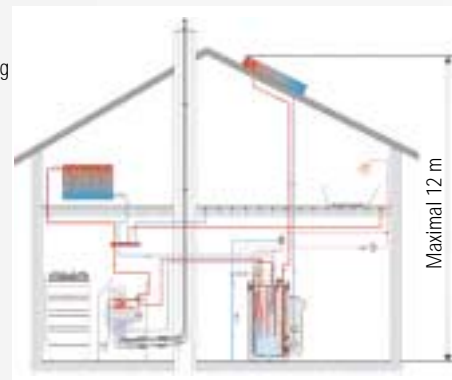
| | | | | | |
|-----------------|-----------------|-----------------|---------------|---------------|---------------|
| 500 | 500 | 500 | 500 | 500 | 500 |
| 87 | 93 | 81 | 109 | 115 | 103 |
| 587 | 593 | 581 | 609 | 613 | 603 |
| 79 x 79 x 159 | 79 x 79 x 159 | 79 x 79 x 159 | 79 x 79 x 159 | 79 x 79 x 159 | 79 x 79 x 159 |
| 85 | 85 | 85 | 85 | 85 | 85 |
| 1,4 | 1,4 | 1,4 | 1,4 | 1,4 | 1,4 |
| 10 | 10 | 10 | 6 | 6 | 6 |
| Stainless steel | Stainless steel | Stainless steel | PEX | PEX | PEX |
| 24,5 | 24,5 | 24,5 | 80 | 80 | 80 |
| 5,5 | 5,5 | 5,5 | 25 | 25 | 25 |
| 2470 | 2470 | 2470 | 1620 | 1620 | 1620 |
| 10,4 | 10,4 | - | 10,4 | 10,4 | - |
| 2,3 | 2,3 | - | 2,3 | 2,3 | - |
| 1040 | 1040 | - | 1040 | 1040 | - |
| - | 10,4 | - | - | 6,5 | - |
| - | 2,3 | - | - | 1,4 | - |
| - | 1040 | - | - | 650 | - |
| 2 | 2 | 2 | - | - | - |
| 0,43 | 0,43 | 0,43 | - | - | - |
| 200 | 200 | 200 | - | - | - |
| 2,3 | 2,5 | 2,3 | 3,5 | 3,5 | 3,5 |
| 35 | 45 | 35 | 35 | 35 | 35 |
| 22 | 24 | 22 | 25 | 26 | 25 |
| 220 | 220 | 220 | 335 | 335 | 335 |
| 442 | 453 | 442 | 600 | 664 | 600 |
| 220 | 240 | 220 | 250 | 260 | 250 |
| 1" male | 1" male | 1" male | 3/4" female | 3/4" female | 3/4" female |
| 1" male | 1" male | 1" male | 1" male | 1" male | 1" male |
| 16 45 16 | 16 45 17 | 16 45 15 | 16 50 06 | 16 50 07 | 16 50 05 |

Pressure loss – characteristic line for the heat exchanger

- a PEX – domestic water heat exchanger
- b Domestic water-heat exchanger (stainless steel)
- c Storage tank loading – heat exchanger 1 or 2 (stainless steel)



System example: Sanicube Solaris with A1 oil-condensing boiler and Solaris system





Enjoy saving energy: ROTEX - The coming heating system.

Firstly comfortable heat and hygienic hot water make you feel at home. Energy gets always more precious and more expensive. With energy saving heating system you can increase the comfort and save energy. Therefore invest today into the future. The energy saving potential with heating is very big and has a lasting effect for years.

ROTEX, the coming heating system, it contains energy saving components which are perfectly co-ordinated.

- Condensing boiler for oil and gas
- Hygienic high-efficiency hot water storage tank
- Pressureless and eco friendly solar systems
- Underfloor heating and radiators with only one water distribution
- Fume barrier safety tanks
- A connecting plastic-installation system for domestic and heating

You can find further information under www.rotex-heating.com

ROTEX

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