ROTEx complete product range

The complete heating system

Energy-efficient heating systems for new-built and modernisation.
ROTEX – a strong partner

Expertise in heating technology
The history of ROTEX heating systems is marked by numerous innovative products and developments. Founded in 1973 as a plastics processor, ROTEX GmbH started producing heating oil storage tanks made of polyethylene (PE) in 1978. The company succeeded in quickly claiming a leading position on the market in this sector. With new product groups – from underfloor heating and hot water storage tanks right up to solar technology – ROTEX continued to achieve further developments in heating and household technology. Today ROTEX sees itself as a provider of complete, innovative and environmentally friendly heating systems.

The comprehensive ROTEX system
It is our aim to reduce fossil fuel consumption and CO₂ emissions through the deployment of renewables in tandem with comprehensive ROTEX system technology. This system concept, combined with a wide range of products and services, make ROTEX one of the technical leaders in building service technology. ROTEX has been a member of the Daikin Group since 2008. The strong skills base this has created has enabled us to devise products that meet the most demanding standards.

ROTEX solutions, for new build and modernisation
ROTEX offers products that are highly flexible, cover a range of applications while remaining open to adaptation and expansion. Our top quality heating components are perfectly matched and our R&D department pursues benefits to users and trade partners as a top priority during product development.

The complete product range from ROTEX
• Renewable heat pumps
• Advanced condensing technology with gas or oil
• Solar thermal system for central heating and domestic hot water
• Underfloor heating and cooling
• Hygienic thermal store
• Corrosion-free installation system
• Safety heating oil tank with odour barrier
• Rainwater storage tanks

“I really value futureproof solutions and advice that is tailored to me and my situation. With ROTEX I can be sure of products that provide a high degree of flexibility, both for myself and my clients. No matter whether for modernisation or new build, ROTEX is a partner you can trust.”

David Kraft, Kraft Heiztechnik GmbH
The ROTEX product range

Heat generation

**Solar thermal system**
The flexible solar thermal system providing water heating and central heating backup, to be used for pressurised solar and Drain-Back applications.

**Gas condensing boiler**
With ROTEX gas condensing boilers, you have the choice of various energy saving models from the floorstanding compact boiler with thermal store to the space saving wall mounted boiler – solar options included.

**Oil condensing boiler**
The ROTEX oil condensing boiler provides proven, highly efficient oil condensing technology. It can also be used with solar and is ready for bio-oil.

**Heating oil tank**
ROTEX heating oil tank, the twin wall, safety fuel oil tank that can be installed directly in the boiler room.

**Heat pump**
ROTEX air-to-water and ground source heat pumps utilise renewable environmental heat with maximum efficiency. Ideal for new build and modernisation.

**Gas hybrid heat pump**
The ROTEX gas hybrid heat pump combines the benefits of two technologies. Depending on demand, it automatically selects the most advantageous heating mode.

**External heat pump unit**
The outdoor unit of the ROTEX air-to-water heat pump is unobtrusive, space saving and easy to install outdoors.

Heat distribution

**Fan convector**
The ROTEX fan convector heats and cools to meet demand. It is the ideal supplement to the heat pump for rooms that lack underfloor heating.

**Installation system**
The corrosion-free ROTEX plastic installation system for plumbing and heating applications.

**Underfloor heating**
ROTEX underfloor heating systems provide comfortable warmth and gentle cooling in every room – in both new build and modernisation projects.

**Heat storage**
**Thermal store**
The heart of every heating system. Hygienic heating of DHW and central heating water with the ROTEX thermal store. Also available in very compact form with an integral heat generator.

**Rainwater storage**
The ROTEX rainwater storage system for indoor installation reduces household water requirements by up to 50%.

Example illustration with air-to-water heat pump, ROTEX HPSU compact, underfloor heating, solar thermal system, HP convector and rainwater storage.
## ROTEX complete product range

### ROTEX heat generator

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
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<tbody>
<tr>
<td>ROTEX HPSU compact</td>
<td>Air-to-water heat pump</td>
</tr>
<tr>
<td>ROTEX HPSU Bi-Bloc</td>
<td>Air-to-water heat pump</td>
</tr>
<tr>
<td>ROTEX HPU ground</td>
<td>Ground source heat pump</td>
</tr>
<tr>
<td>ROTEX HPU hybrid</td>
<td>Gas hybrid heat pump</td>
</tr>
<tr>
<td>ROTEX HPSUfHydro</td>
<td>High temperature heat pump up to 80 °C</td>
</tr>
<tr>
<td>ROTEX GCU compact</td>
<td>Gas condensing / solar combination</td>
</tr>
<tr>
<td>ROTEX GW</td>
<td>Wall mounted gas condensing boiler</td>
</tr>
<tr>
<td>ROTEX A1</td>
<td>Oil condensing boiler</td>
</tr>
</tbody>
</table>

### Optional complements

<table>
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<th>Product</th>
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<tr>
<td>ROTEX Sanicube/ HybridCube</td>
<td>Solar system</td>
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<tr>
<td>ROTEX Solaris</td>
<td>Solar system</td>
</tr>
<tr>
<td>ROTEX Monopex/System70</td>
<td>Underfloor heating</td>
</tr>
<tr>
<td>ROTEX VA</td>
<td>Installation system</td>
</tr>
<tr>
<td>ROTEX variosafe</td>
<td>Heating oil tank</td>
</tr>
<tr>
<td>ROTEX variocistern</td>
<td>Rainwater storage tank</td>
</tr>
</tbody>
</table>

### Additional notes
- **ROTEX Sanicube/ HybridCube**: Combination of hot water storage and instantaneous water heater
- **ROTEX Solaris**: State of the art heat pump technology with integral thermal store
- **ROTEX Monopex/System70**: Split system for flexible integration into the building
- **ROTEX VA**: State of the art gas condensing technology with integral thermal store
- **ROTEX A1**: Oil condensing boiler delivers maximum efficiency with every type of heating oil

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**Optional complements**

- **Hygienic hot water generation**
- **Efficient energy saving** thanks to full thermal insulation made from PU rigid foam
- **Connection to the most varied heat generators and heat sources**

- **Easy installation**
- **Approved for drinking water**
- **Modular tank system for all demands**
## Product Matrix

<table>
<thead>
<tr>
<th>Features</th>
<th>Heat pumps</th>
<th>Heat generators</th>
<th>Gas condensing</th>
<th>Oil condensing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum flow temperature</td>
<td>HP Gas: 8.2 - 26.6 kW</td>
<td>HPU ground: 10 kW</td>
<td>Gas condensing / solar combination</td>
<td>Wall-mounted oil condensing boiler</td>
</tr>
<tr>
<td>Capacity range</td>
<td>HP: 5 - 8 kW</td>
<td>Biv: 4 - 16 kW</td>
<td>11 - 16 kW</td>
<td>12 - 37 kW</td>
</tr>
<tr>
<td>Output</td>
<td>Wall-mounted air-to-water heat pump (air-to-water heat pump, split system)</td>
<td>1.8 - 26.6 kW</td>
<td>4 - 16 kW</td>
<td>4.5 - 37 kW</td>
</tr>
</tbody>
</table>

### Areas of application

- **New build**:
  - Hygienic thermal and solar store
  - Wall-mounted gas condensing boiler, with integrated 3-way valve for storage tank charging

- **Modernisation - Buildings with underfloor heating or low temperature radiators until 50 °C flow temperature**
  - Hygienic thermal and solar store
  - Wall-mounted gas condensing boiler, with integrated 3-way valve for storage tank charging

- **Modernisation - Buildings with radiators over 50 °C flow temperature**
  - Hygienic thermal and solar store
  - Wall-mounted gas condensing boiler, with integrated 3-way valve for storage tank charging

### The components

- **External unit**
  - Hygienic thermal and solar store

- **Internal unit**
  - Integrated thermal store with solar option

- **Integrated stainless steel tank**

### Optional complements

- **Hygienic thermal and solar store**
  - ROTEX Sanicube Solaris

- **Stainless steel storage tank US 150**

- **Thermal solar system**
  - ROTEX Solaris - pressurized system

- **Thermal solar system**
  - ROTEX Solaris - Drain-Back system

- **Underfloor heating**
  - ROTEX Monopex for low system temperatures (35 °C - 45 °C)
  - ROTEX Monopex for high system temperatures (40 °C - 50 °C)

- **Fan convector**
  - ROTEX HP convector

- **Installation system for sanitary and heating**
  - ROTEX VA

- **Heating oil tank**
  - ROTEX variosafe

- **Rainwater storage tank**
  - ROTEX variocistern

### Information in printed materials subject to correction and technical modification.

From 26 September 2015, energy efficiency labels and current product datasheets can be obtained using the Energy Label Generator at www.rotex-heating.com.
Efficiency made transparent

September 2015:
New: energy efficiency labels for heating systems

We’re familiar with these labels on fridges, televisions and other electrical appliances. From 26 September 2015, heat generators and water heaters will bear their own EU energy efficiency labels. These labels will make it easier to compare individual heating products and decide which ones to buy.

Product labels
The EU Directive defines two product groups:
Lot 1: Heat generators for space heating only, and combi heaters for space heating and domestic hot water heating (gas, oil and electrical boilers, heat pumps and CHP units).
Lot 2: Water heaters and tanks. From September 2015, all of these must have a label.

Combi appliances for space heating and DHW heating carry a package label with two efficiency values.

Package labels
Combinations of several products, such as heat generator with room controller or solar thermal system, are called packages and must also have a label. The values for these package labels are calculated on the basis of the efficiency values of the individual components. Packages pre-configured by the manufacturer will be delivered with package labels and the relevant fiches from the factory. This will simplify the work of dealers and installers.

Expert advice
With the introduction of the energy label, the need for skilled consultation from installers will increase. After all, the best efficiency class is not automatically the best solution for the customer. The rating takes no account of the investment and operating costs of products and systems. Only specialist analysis of the building’s characteristics and the customer’s requirements will result in sensible – that is, customized, efficient and cost-effective – solutions for space heating and water heating.

Excellent package label ratings
Hooking up a solar thermal system is the most effective way to reach a higher overall system efficiency class. The ROTEX products (here GCU compact) are already optimised for linking up with a solar thermal system – when you connect it to a ROTEX Solaris, will become your own personal solar heater. The integral central heating backup and large storage volume will raise your system’s energy efficiency ratings for both domestic hot water and space heating.

Safe in the knowledge it’s ROTEX
All ROTEX products are tested and meet the criteria in the Eco-design Directive. For both individual products and packaged solutions, energy labels are a reliable indicator of efficiency class.

Perfectly matched in terms of their individual components, our complete systems provide both maximum convenience and the highest safety standards.

Strong system solution: Combination with solar

**System diagram: GCU compact with solar thermal**

1. Gas condensing/solar unit with integral thermal store and built-in electronic controller
2. Solar thermal collectors
3. Solar pump station

* ROTEX system consisting of:
  GCU compact 515 Biv, RoCon control
  4 solar collectors V26P
The ROTEX complete product range

Dream dimensions for your heating: Heating and hot water in just 0.36 m²
Irrespective of whether with or without solar energy exploitation, the ROTEX GCU compact and HPSU compact are an optimum combination of high-efficiency condensing boiler and hygienic thermal store. As a result of the uncompromising combination of these functions, these compact units set new standards with regard to space saving and energy exploitation. An area of only 0.36 m² (300 litre storage volume) or 0.64 m² (500 litre storage volume) is sufficient to accommodate the complete heating, hot water generation and stratified solar thermal store.

Gas condensing + solar energy
The ROTEX GCU compact combines modern gas condensing technology with solar thermal store in the smallest possible space. The integration of the condensing heating boiler on top of the thermal store means that the surface losses of the unit are kept to a minimum. Losses as a result of cooling, as occur in usual boiler storage combinations, do not occur here.

The heat pump + solar energy
ROTEX offers an especially compact and pioneering comprehensive solution in the form of the new heat pump unit, the HPSU compact. The HPSU compact exploits free and regenerative environmental energy from the sun and the air. The internal unit of the heat pump and the stratified solar thermal store are also combined here. The HPSU compact can not only provide heating but can also cool if required.

The Hybrid central unit – open for all energy types
All ROTEX solar thermal stores can also be used as an efficient thermal store for additional heat sources. For example, in addition to a solar system, a fireplace with water pocket can be used to provide support during heating and hot water generation. If a solar system is not installed directly, it can retrofitted quickly and easily at any time.

The ROTEX compact class: Compact combination of heat generator and solar thermal store

Monthly energy consumption of an average single-family house
The diagram shows the monthly energy consumption of an average single-family home. It compares two system types: The white bar represents the energy consumption using an old boiler. The grey/yellow bar shows a system with the ROTEX GCU compact with 4 solar panels.

1 Air-to-water heat pump
ROTEX HPSU compact
2 Gas condensing/solar combination,
ROTEX GCU compact
When the hot water storage tank had to be replaced, I was amazed how much deposit had collected in the old unit. As a result, our installer recommended us the Sanicube from ROTEX. The water-hygiene advantages convinced me. I can now enjoy every drop again."

Sabine Hiller about her experiences using the Sanicube thermal store

Think DHW hygiene when buying a heating system

The hygienic thermal store
All ROTEX thermal stores and also the GCU compact and HPSU compact of the ROTEX compact class are a combination of domestic hot water tank and instantaneous water heater. The heat is not stored in the domestic hot water itself, but in the clearly separated tank water. Optimum tank stratification ensures that the provision of hot water is always guaranteed.

The drinking water is contained in a high-performance heat exchanger made of durable stainless steel (INOX). The drinking water remains perfectly hygienic.

The storage tank water is added at commissioning and serves only for thermal storage. It is not exchanged and consumed. The inner and outer walls are impact-resistant polypropylene, the space in-between is filled with highly heat insulating foam. This results in very good heat insulation values and minimum surface losses.

The first thing we need for foodstuffs is clean water

"The hygienic ROTEX thermal store principle: The domestic water to be heated is conveyed and heated through a separate high-performance heat exchanger made of stainless steel. Water that is charged first is also the first to be removed (first-in first-out principle)."

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Your benefits with the ROTEX thermal store
Outstanding efficiency
- Efficient energy saving thanks to full thermal insulation made from PU rigid foam

Hygiene
- Highest level of hygiene by the separation of the storage tank water from the domestic water
- No deposits, no legionella generation

Meets your needs
- Minimum space requirement and simple installation due to compact design and low weight
- Long life and safe as a result of the used materials plastic and stainless steel
- Low scaling
- Sophisticated innovative technology, with 25 years’ experience
- Modular system: Interconnection of several storage tanks possible for high-volume hot water demand
- Connection to the most varied of heat generators and heat sources
What makes ROTEX different?
We offer individual solutions for optimum living and working that are straightforward, intelligent, and futureproof.

ROTEX is a manufacturer and supplier of complete innovative and environmentally responsible heating systems – building on decades of experience. Since 1973, ROTEX has stood for innovation and know-how in the field of heat generation, storage and distribution. In the development of products for our high grade and perfectly matched components we focus on user benefits.

The ROTEX product range extends from heat pumps, condensing boilers for oil and gas, solar thermal systems and thermal stores, not forgetting underfloor heating, heating oil tanks and rainwater tanks, right up to a comprehensive installation system for all sanitary and heating equipment. Innovative systems that facilitate the optimum use of conventional and alternative fuel types in both modernisation and new build projects. ROTEX products stand for unique cost efficiency with maximum environmental compatibility and the highest levels of flexibility.

ROTEX Heating Systems GmbH is a wholly owned subsidiary of Daikin Europe NV, making it a member of the DAIKIN Group, the world’s leading manufacturer and supplier of products for heating, ventilation and climate control. Our combined competence generates optimum product solutions to meet the highest user aspirations.