Achieving
Substantial Synergies

Energy Recovery Systems for Industrial Heaters

hybridSchwank
ENERGY RECOVERY TECHNOLOGY

Energy Efficiency and Sustainability Trend

To minimize the operating costs of a building and to contribute to the preservation of our environment, the use of energy efficient indoor heating is essential.

The market trend to lower carbon emissions and reduce heating costs have created the right environment for technology developments in energy efficient heating. Strong Government encouragement and incentives are accelerating these developments.

Schwank is actively developing clean technologies to achieve breakthrough energy efficient heating systems.

hybridSchwank – The Future is Greener

A hybrid system is the combination of two technologies. Each technology in itself represents a stand-alone solution. However, when combined, the technologies create synergies.

hybridSchwank is a combination of:

- Energy efficient, environmentally sound gas infrared heaters and
- Innovative heat recovery.

Hybrid systems were implemented by Schwank already in 1995. Ever since these hybrid heat recovery systems have become more and more economically viable.

think green

Custom Design for the Best Solution

Waste heat recovery lowers the heating cost of a building. Schwank offers individual hybrid systems with the greatest efficiency – customized to each building. The design is completed with a viable economic return in mind.

Up to 15% of installed heating power can be recovered to heat up adjacent offices or to provide warm water for bathrooms.

For example, a building with an installed heating capacity of 300 kW can recover 45 kW thanks to the integrated recovery system.

hybridSchwank – Exploiting Excess Energy

The system exploits and recycles the retained energy available in the flue gas and feeds it into the heating systems for the offices.

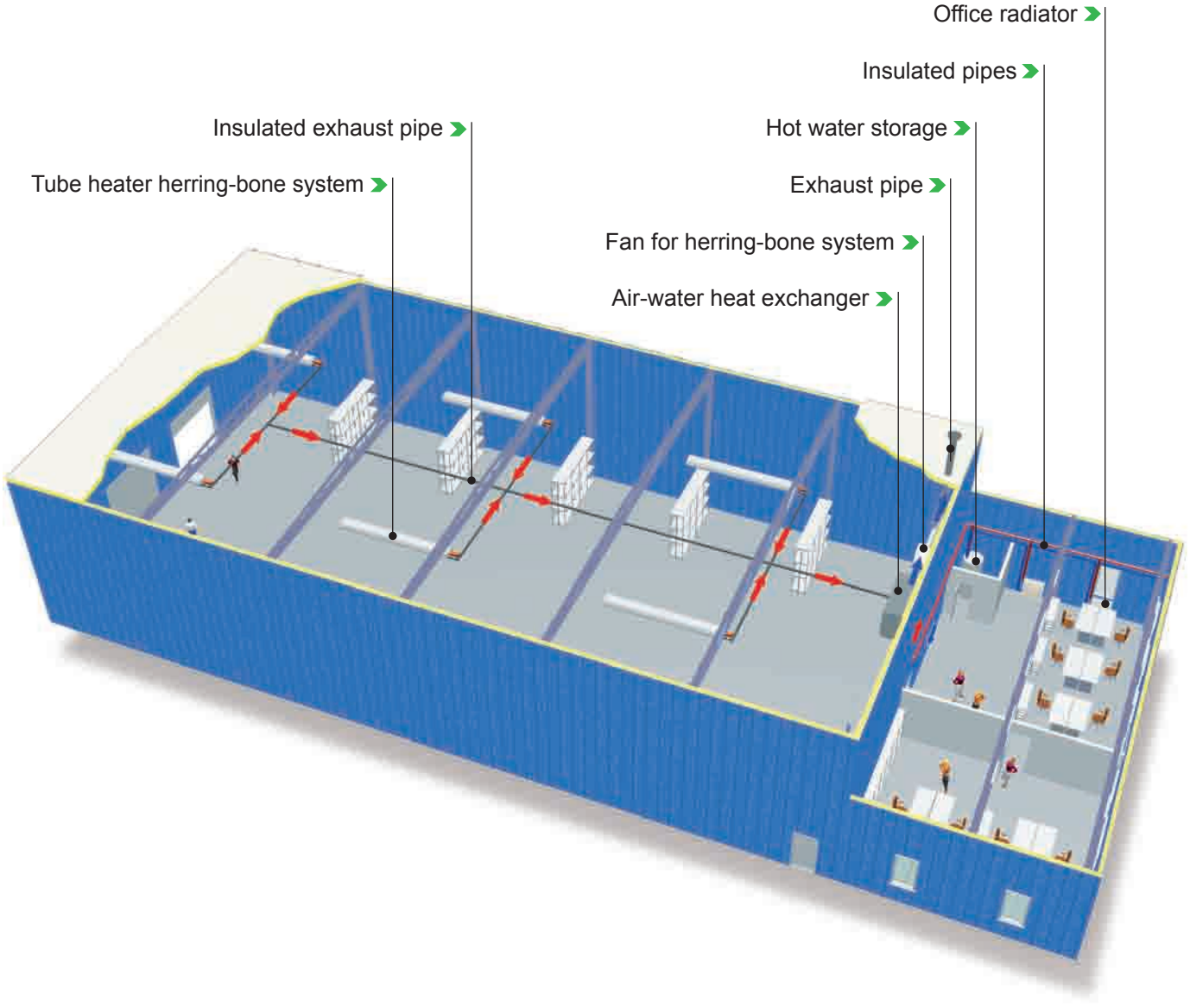
How does it work?
The flue gas from an infrared heating system resulting from the combustion process is collected via duct systems and fed into a recuperative air-water heat exchanger.The exchanger passes on the heat by means of corrugated tubes to the water which in turn is supplied to the hot water storage tank. Water temperatures of up to 90°C will be reached during this process.

A custom control system, with 3-way mixing valve and temperature sensors, control the corresponding inflow into the system. The recovered energy, in the form of heated hot water, will now be stored and available for the heating system in the offices.

Up to 18% of the building's floor space can be heated with recovered heat. The hot water can also be used in washrooms. In many cases, a boiler system for offices can be made obsolete.

hybridSchwank means:
heating the production or distribution facility and obtaining free heat for office spaces

hybridschwank hydro



Green Building

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The Benefits at a Glance

- Lower heating cost
- Increased energy efficiency through energy recovery
- Design, installation and commissioning by Schwank engineers
- High quality stainless steel heat exchanger for up to 15% energy recovery, including:
  - Efficient corrugated tube system
  - Integrated exhaust gas bypass system, including control
- Full-service design, including:
  - Feed-in controller with 3-way valve and temperature sensors
  - Hot water storage and insulated supply and exhaust pipes
  - Control system for heat exchanger
  - Safety shut-off of heating system
- Integration into specific or Schwank building management system [BMS]

Sustainable
Green Building

From the description „green building“ one understands the sustainable and especially energy-efficient use of buildings.

To promote energy-conscious accomplishments, the Green Building Council [United States], with its internationally recognised LEED [Leadership in Energy and Environmental Design] program, and the German DGNB [German sustainable building council], provide certifications for particularly energy efficient and environmentally conscious buildings.

The criteria are essentially similar: the more energy efficient the building, which includes the heating system, the higher the classification of the award.

Through its membership in these organisations, Schwank is actively involved in the design of innovative green heating systems.

Our aim is to support sustainable, economically viable building design.

DGNB®
Deutsche Gesellschaft für Nachhaltiges Bauen e.V.

U.S. GREEN BUILDING COUNCIL MEMBER

Experience creates safety

Schwank is recognized worldwide as a manufacturer of high quality, economically viable industrial heating systems. As the market leader of gas infrared heaters, Schwank has extensive experience in dealing with heating systems. 150 000 satisfied customers and two million heaters sold speak for themselves [see references at www.schwank.de].

As a German manufacturer, we stand by our claim; products and services with the highest quality. Our products are manufactured in our plant with minimum CO_2 emissions.

Schwank is a world-class manufacturer. **Innovative. Experienced. Competent.**

Schwank
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