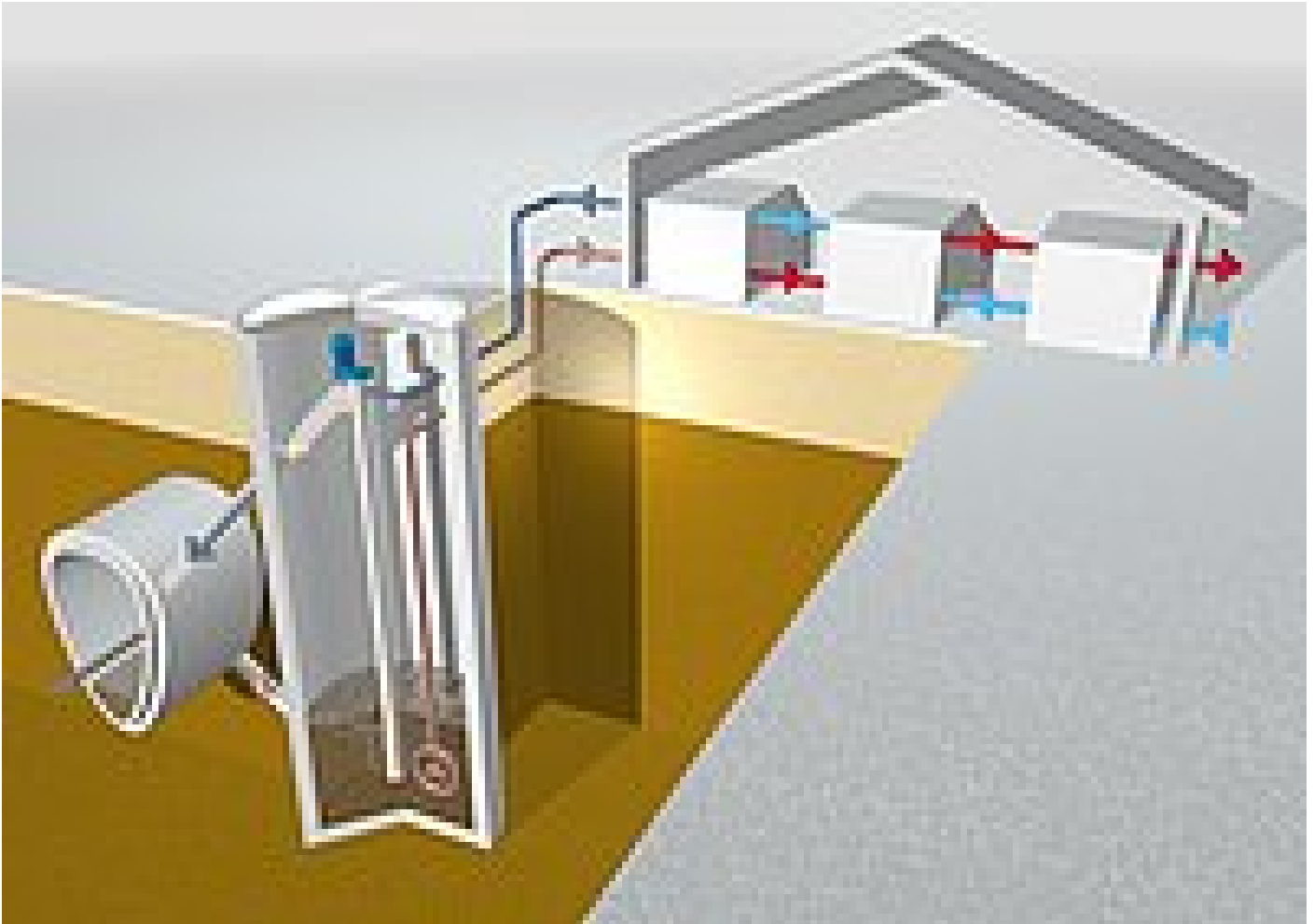
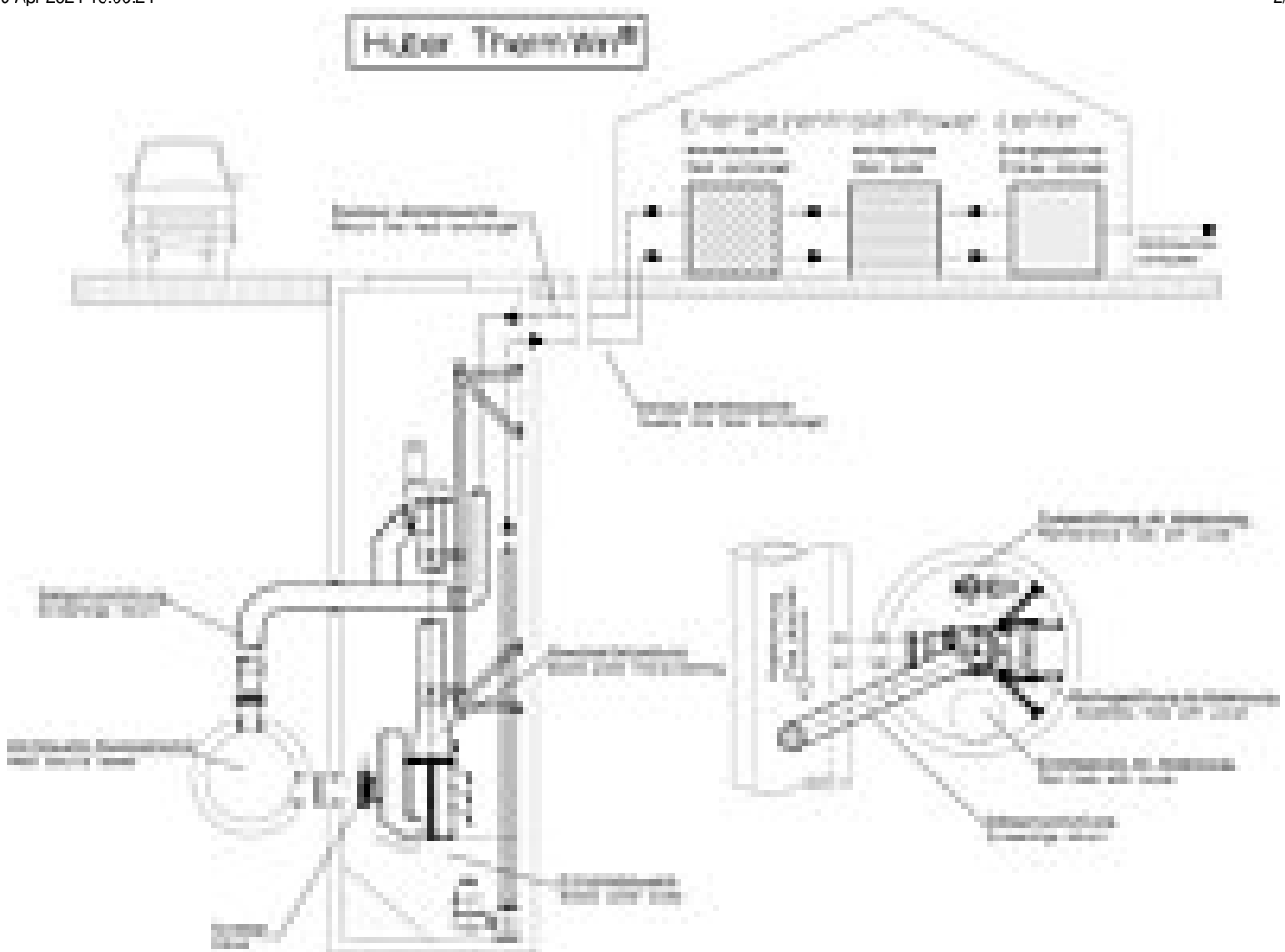


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HUBER ThermWin utilizes wastewater heat



Principal sketch



Schematic drawing of HUBER ThermWin system

Anticipated rising energy prices on the oil and gas market but also the upcoming climate change demand to think about and use alternative energy sources. An enormous energy potential lies in our wastewater. That is why HUBER specialists have explored technical possibilities how to utilize this energy. As a result of their investigations they have developed the innovative HUBER ThermWin system that uses this regenerative potential under ecological and economical aspects.

Wastewater with its enormous heat potential is always present in our sewers and as a renewable energy source available permanently and in huge amounts. Combined with heat pumps and appropriate heat intake systems technology for heat recovery from wastewater represents another keystone in the overall concept to achieve EU climate protection goals. Efficient and economic utilization of this regenerative energy source can significantly reduce primary energy consumption and thus CO₂ emission, both in an economical way and without any sacrifice.

The application of previously known technologies was very limited due to limited technical feasibility or economic efficiency. On the basis of this knowledge an excellent alternative solution has been developed by HUBER, which opens up a completely new field of possible applications: the HUBER ThermWin system.

The HUBER ThermWin system for wastewater heat recovery is based on the principle that actual heat exchange as well as all other necessary process steps do not take place inside the sewer but outside or in above ground installations. A portion of the sewage flows from the sewer into a screening chamber where the screenings are separated. Wastewater screening is necessary to both prevent clogging of downstream heat exchangers and permit the use of as compact as possible and inexpensive heat exchangers. The HUBER heat exchange has been developed especially for applications in the field of wastewater treatment to meet among others the requirements of continuously maximum heat transfer and low maintenance.

After having passed through the heat exchanger the wastewater is returned to the sewer via a pipeline with integrated launder channel. The launder channel ensures the return of screenings to the sewer. This arrangement of our equipment provides our customers with the benefit that the entire equipment is easy to install and easily accessible for service and maintenance. This is particularly important for the plant operators and customers.

From the technical point of view some requirements must be fulfilled to ensure projects can successfully be executed.

The dry weather flow in the sewer must be sufficient and amount to at least 10 l/sec. Furthermore, the available heat potential must be taken into account. The average temperature in winter should not fall below approx. 10 °C. Also important is a short distance between the sewer and the object to be supplied with the heat. Furthermore, energy supply during peak load periods should be considered.

Suitable objects are typically bigger buildings, such as sport facilities, swimming baths, schools, kindergartens or industries. Indicator for whether a wastewater utilization project can be put into practice is the economy calculation, which reveals the financial potential compared to conventional heating plants (gas, oil).

Plants for wastewater heat utilization may at first glance seem to require higher investment costs. Considering, however, heat generation costs and final full costs, it becomes apparent that the reuse of wastewater heat is a sustainable investment, not at least as the costs for energy consumption and plant operation are low and further external costs are avoided. Compared to conventional heating plants the monetary burden for the final customer is significantly reduced. Moreover, customers contribute to sustainable environmental protection.

To be able to quickly and roughly estimate the technical feasibility of a project beforehand, a check list has been developed for the HUBER ThermWin system that allows to decide whether the reuse of wastewater heat is technically reasonable for a specific project.

The use of wastewater heat is a step towards achieving EU climate protection goals and contributes to realizing the idea of the reuse of renewable energies. We regard wastewater not as waste, but as a valuable resource! Of course, the heat from wastewater can optionally be used for cooling purposes in summer. Hence, wastewater is not only an energy source for the winter but can as well be used as an energy sink in summer.

Related Solutions:

- [HUBER Solution for Heat Recovery from Sewers \(ThermWin\)](#)

Related Products:

- [Energy from Wastewater](#)

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