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HUBER Solution for Heat Recovery from Sewers (ThermWin®)



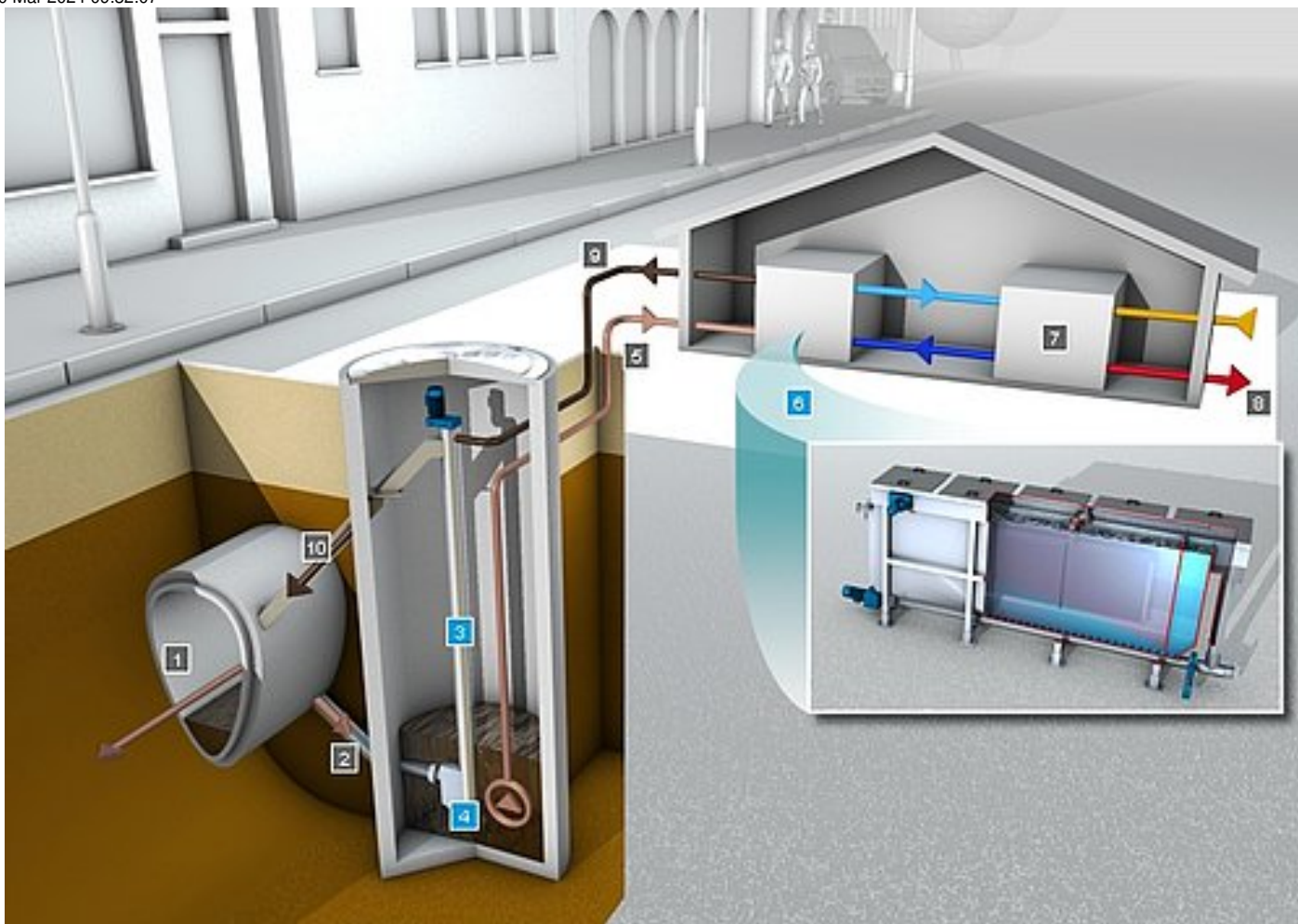
Beneath our streets we find an energy source that we have so far ignored. Municipal sewage contains thermal energy; its temperature is generally between 10 and 20 °C, all year round. This temperature permits economical operation of heat pumps for the heating of nearby buildings (e.g. nursery homes, schools, gymnasiums, swimming pools). The only challenge is how best to extract heat from sewage.

Manufacturers are busily developing sewer pipes with integrated heat exchangers; but then we would need new sewer construction. There are special heat exchangers that can be installed on the inverts of existing sewers; but this is only possible in large diameter sewers, and heat transfer is impeded by fouling layers on the surface of such heat exchangers; not only is installation of such heat exchangers difficult and expensive, but also their service and maintenance.

We have developed our own **HUBER Solution ThermWin** for heat recovery from sewage:

We withdraw sewage from the sewer, screen it, pump it through above-ground [Heat Exchangers](#), and then return it back into the sewer. Because we screen and pump the sewage, we can use compact and cost-effective heat exchangers, wherein we generate a well-defined and turbulent flow for efficient heat transfer. For screening we use a vertical screw screen [HUBER Pumping Stations Screen ROTAMAT® RoK4](#) that is compact and lifts the screenings through its vertical auger. Returned sewage flushed the lifted screenings over a chute back into the sewer.

концепция



нажмите для увеличения и перехода к интерактивной картинке

преимущества

Advantages of the HUBER Solution ThermWin

- Efficient use of renewable and sustainable energy
- Unlimited availability, secure supply
- Local and free, decentralized heat source
- Cost-effective from a dry weather flow of around 10 L/s
- Negligible effect on wastewater treatment (sewage cooling by 1 – 2 °C only)
- Independence from sewer size
- Use of compact, efficient and cost-effective heat exchangers
- Heat exchangers above ground (easy access for installation and maintenance)
- Little construction work (narrow manhole beside sewer)
- Minimal interference of existing sewers (only drilling of two holes)

примеры из практики

- Heating without fuel with HUBER ThermWin: cold local heating network in Schallstadt (Baden-Württemberg)
- World's largest project for energy recovery from wastewater
- HUBER SE supplies ThermWin® system for heating and cooling with wastewater at a museum
- Use of heat from locally generated sewer wastewater: case study old-age home Hofmatt, Switzerland
- Thermal heat from sewers: Bavarian Energy Award 2012 in the category Energy Concepts and Initiatives goes to HUBER SE!
- Energy from wastewater - the HUBER RoWin Heat Exchanger is becoming increasingly popular
- Leukerbad in Switzerland uses HUBER Heat Exchanger for heat recovery from thermal spa wastewater
- Three HUBER projects for wastewater heat recovery in Switzerland

- [Heat recovery from raw sewage](#)
- [First HUBER ThermWin plant for wastewater heat recovery in Switzerland](#)
- [Economic efficiency of heat recovery from wastewater](#)

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 обзорный проспект: [Обогрев и охлаждение за счет сточных вод](#) [pdf, 1.34 MB]

Видео



Video: HUBER Solution ThermWin® for Heat Recovery from Sewers

<https://www.youtube.com/watch?v=tmifKb2QhLk>



Video: Waste water heat recovery - reuse of process heat

<https://www.youtube.com/watch?v=JLLsLvEGFH8>

Оборудование

- [Получение энергии из сточных вод](#)
- [HUBER Теплообменник RoWin](#)
- [HUBER Вертикальная шнековая решетка ROTAMAT® RoK4](#)



Генеральный директор: Железнов Алексей Игоревич

Адрес: пр-кт Андропова 18, к. 6 · 115432 Москва · Россия · Телефон: +7 499 6830048 · Факс: +7 499 6830048
www.huber-technology.ru · www.huber.de · E-mail: huber@mail.ru · info@huber-technology.ru

Банк ЗАО «ЮниКредит Банк» г. Москва · Расчетный счет: 40702810900010660385 · БИК: 044525545
Корресп. счёт: 30101810300000000545

