Steinhardt

HYDROSTYX®

Discharge brake

Minimizes costs and protects the environment by activating available storage volume in existing canals

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Water Technology Systems

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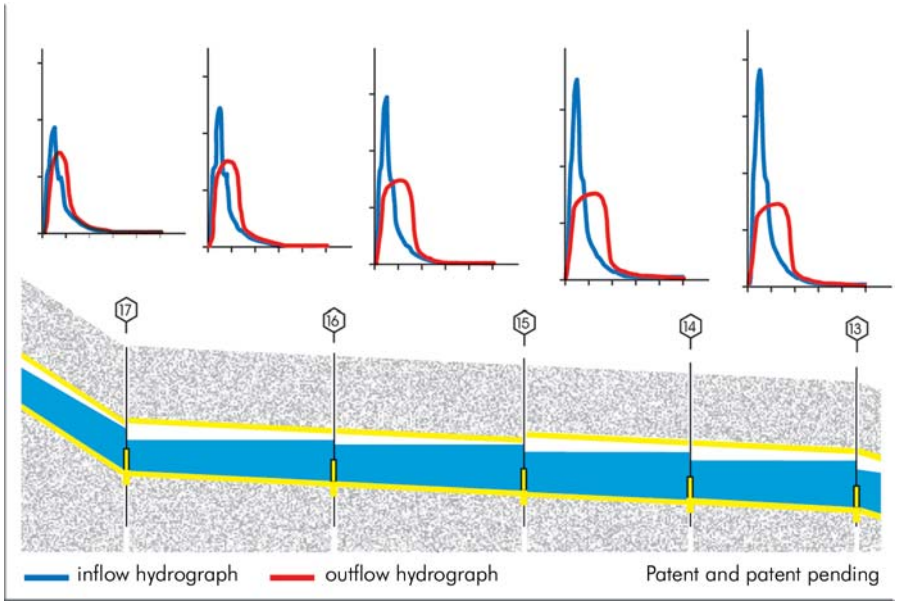
The problem

Measures to protect waters are necessary but often expensive. Legislation demands storage basins for the protection of receiving waters like streams, rivers and lakes. Because of the huge investment costs involved, municipalities are seldom able to build such structures. Action is also called for when the canals in an urban area are overburdened due to new development areas. The removal of sealed surfaces is often not sufficient so that either buffer basins have to be built or whole canal sections replaced to secure the older parts of the urban area.

The solution

A canal system usually has large unused storage capacities since it was built for maximum loads. The HydroStyx discharge brake allows this hidden capital to be utilized. When there is stormwater, the HydroStyx discharge brake allows the canal volume to be used as retention volume. The discharge is braked. The HydroStyx discharge brakes are installed from the initial position in stretches and in cascade formation. They are designed for use in existing shafts. Above the opening on the ground a calculated discharge is passed on to the next position. With increased stormwater a build-up occurs before the discharge brakes. The particles in the water sink and are transported to the treatment plant. In the case of heavy stormwater, the combined water flows over the crest of the brakes and the canal is back to full capacity. The water to be discharged contains fewer pollutants, the discharge lines show fewer peaks and are long. Overburdened canals can now transport the discharge-decelerated waters, replacing canals is no longer necessary, new tank volumes are reduced. The installation of the HydroStyx discharge brake requires a qualified engineer canal network calculation, on the basis of which the choice of discharge brake will be made.



The advantages

- Discharge peaks are evened out
- Discharge flows are decelerated
- Overflows are reduced
- Operation of the treatment plant is optimised
- The canal network operates smoothly
- Hydraulic and ecological stress are avoided
- No external power source necessary
- Robust, made of stainless steel
- Can be retrofitted in any shaft
- Can be adjusted to changed parameters

Cost-effectiveness

High construction costs are saved by utilizing existing storage capacities in the canal.

- Investment costs are saved
- Canal replacement no longer necessary
- Fewer basins necessary
- Maintenance-free

Cover picture:
Discharge brakes with controlled bottom outlet

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