



**■ GEBERIT**

# Geberit Sovent

The innovative soil and waste drainage system

The Geberit Sovent fitting is a single stack drainage system designed specifically for use in high rise buildings.

The Sovent fitting was developed to substantially increase the performance of a soil and waste drainage system, and thus eliminate the need for a separate vent stack and reduce the diameter of the stacks in high-rise buildings. The specially designed branch inlet fitting, which is covered by worldwide patents, reduces the pneumatic pressure fluctuations in stacks preventing the syphonage of traps.

To prove the virtues of the Sovent system, a ten-storey hydraulic test tower was built in Bern, Switzerland. During the sixties and seventies, the system was thoroughly tested in private and government owned multi-storey installations in New York, Tokyo, Paris and Stockholm, and has received wide design code recognition.

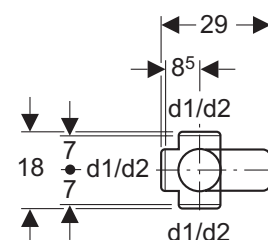
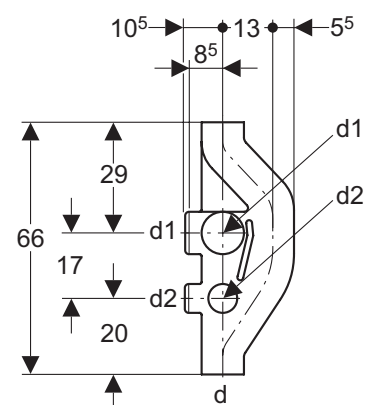
This versatile drainage system offers an economical and high-performance alternative to conventional drainage systems. The Sovent system is constructed from HDPE which is fast becoming the preferred choice amongst many UK mechanical services installers. Some of the unique features and benefits of HDPE include its light weight and ease of installation, it avoids the use of solvent welds and liquid cleaners on site, has outstanding impact resistance at both low and high temperatures and is ideal for on or off site pre-fabrication. With two main homogeneous jointing methods, electrofusion and fusion butt weld giving excellent joint integrity, and other jointing methods available, you can be sure that Geberit HDPE can provide the right solution for any installation requirement.

Due to its high capacity and excellent performance Geberit Sovent fitting is an ideal drainage system for high-rise buildings and is used wherever additional security and up-to-date convenience are required, becoming extremely cost-effective in buildings of five stories and over.

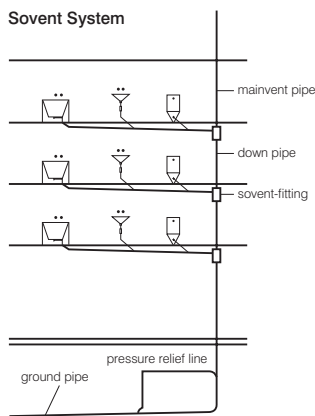
All pipes and connections to a Geberit Sovent system are manufactured to EN1519 and third party approval by the British Board of Agreement Certificate No 92/2796.

### Sovent aerator fitting

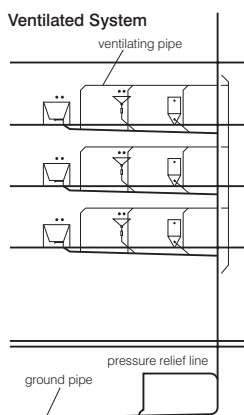
With 6 capped joining possibilities, the aerator is also available with welded-on sockets and reducers.



## Comparison Sovent-system - Ventilated-system



With the Sovent aerator fitting the venting can be managed easily by using one fitting on each floor level. An additional vent pipe is not necessary.



With the ventilating-system each sanitary fitting has to be vented to an additional vent pipe. This means more installation time, materials and larger pipe ducts.

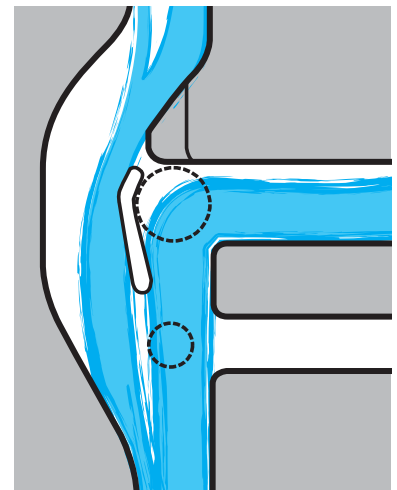
## Performance of the Geberit Sovent Aerator Fitting

- Due to the formation of a hydraulic plug in the stack caused by the inflowing water from a branch, conventional stacks are very easily overloaded with negative pressures exceeding the tolerable limits and traps losing their water seal.
- The construction of the Geberit Sovent aerator actively combats the hydraulic phenomena of the air/water-flow in vertical stacks.

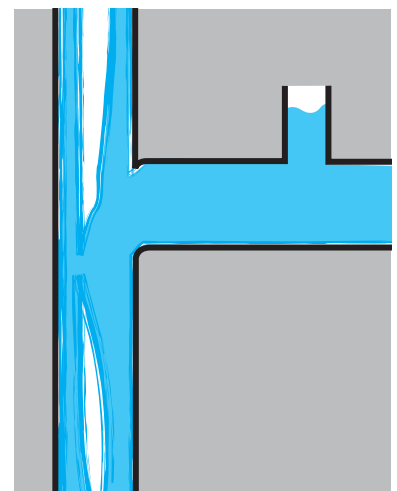
### The aerator fitting is designed to:

- Prevent the formation of a plug of water in the stack by the lateral water-flow from the branch
- Mix efficiently the waste flowing in the branches with the water/air-flow in the stack
- Limit the velocity of both liquid and air in the stack and thus, reduce the air volume to 50% compared to any other system and to ensure the venting action of the branches
- Avoid the penetration of any splash water or foam into the branches
- Offer versatile joining possibilities into one single fitting.

## Comparison of the follow characteristics



Geberit Sovent-aerator



Conventional branch fitting

# Maximum capacity

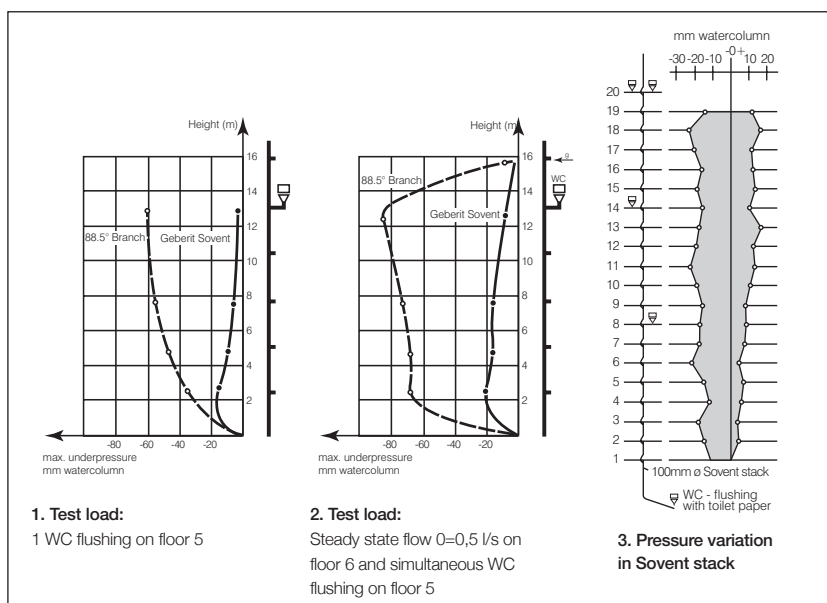
Experiments on industrial and governmental test towers in Berne, Paris, Brussels, New York and Tokyo and field tests over long periods in high-rise apartment buildings up to 20 floors in Europe, USA and in Japan have shown that a Sovent stack equipped with an aerator on each floor level can take three times more fixture units than any ordinary single stack system with conventional branch fittings. Furthermore, in comparative laboratory and field tests in buildings of 6 to 20 stories, it has been proven that the performance of the Sovent-System is equal to the far more costly ventilating system. By observing an ample security factor the following capacity diagram can be computed:

Stack d ø mm	Dia i ø mm	max. expected simultaneous flow rate Qs l/s	Apartment appliances	No of apartments	Total peak flow l/s
110	101	7.3	7.6DU	41	7.3 l/s

Without Sovent, either a 160mm diameter stack or 110mm stack with 50mm diameter secondary vent is required.

The Sovent drainage fittings have proven their capacity and performance in over 50,000 apartments in high-rise buildings up to 44 floors in height and in build complexes comprising 3,000 apartments.

Comparison of the maximum negative static pressures in 4" stacks with equal branch fittings and with Geberit Sovent aerators. Geberit has verified these results on their own hydraulic test tower.



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