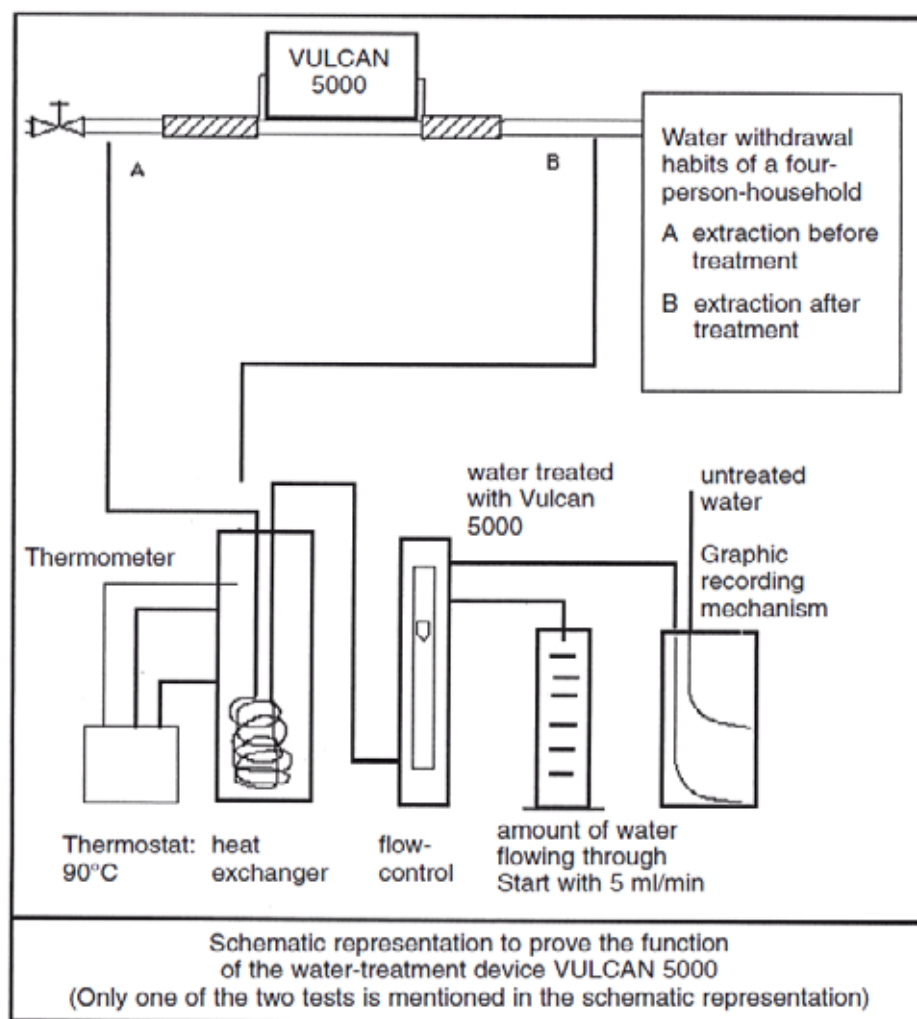


# Centre for Environmental Chemistry





STEINBEIS-STIFTUNG FÜR  
WIRTSCHAFTSFÖRDERUNG

(Foundation of economic promotion Reutlingen)

TRANSFERZENTRUM REUTLINGEN  
ANGEWANDTE UND UMWELTCHEMIE

(Transfer Centre Applied and environmental chemistry)

## Expertise

### Concerning the effect of the water-treatment device

### “VULCAN 5000”

Test subject: water-treatment device “VULCAN 5000”

Manufacturer: CHRISTIANI Wassertechnik GmbH  
Heinrich-Heine-Str. 15  
D- 52249 Eschweiler

Test instruction: A test should be carried out to determine whether VULCAN 5000 can reduce lime deposits in water pipes and household equipment in a purely physical manner without altering the water chemically.

Experimental demonstration of function: The effect was verified in a heat exchanger arrangement using two identical testing units.

Water was withdrawn from the water pipes simultaneously upstream and downstream of the device to be tested and calcium precipitation forced in the heat exchangers.

As lime deposits increase, the flow of water decreases. The more water flows through the experimental arrangement, the smaller tendency there is for the water to form scale on pipes and container walls.

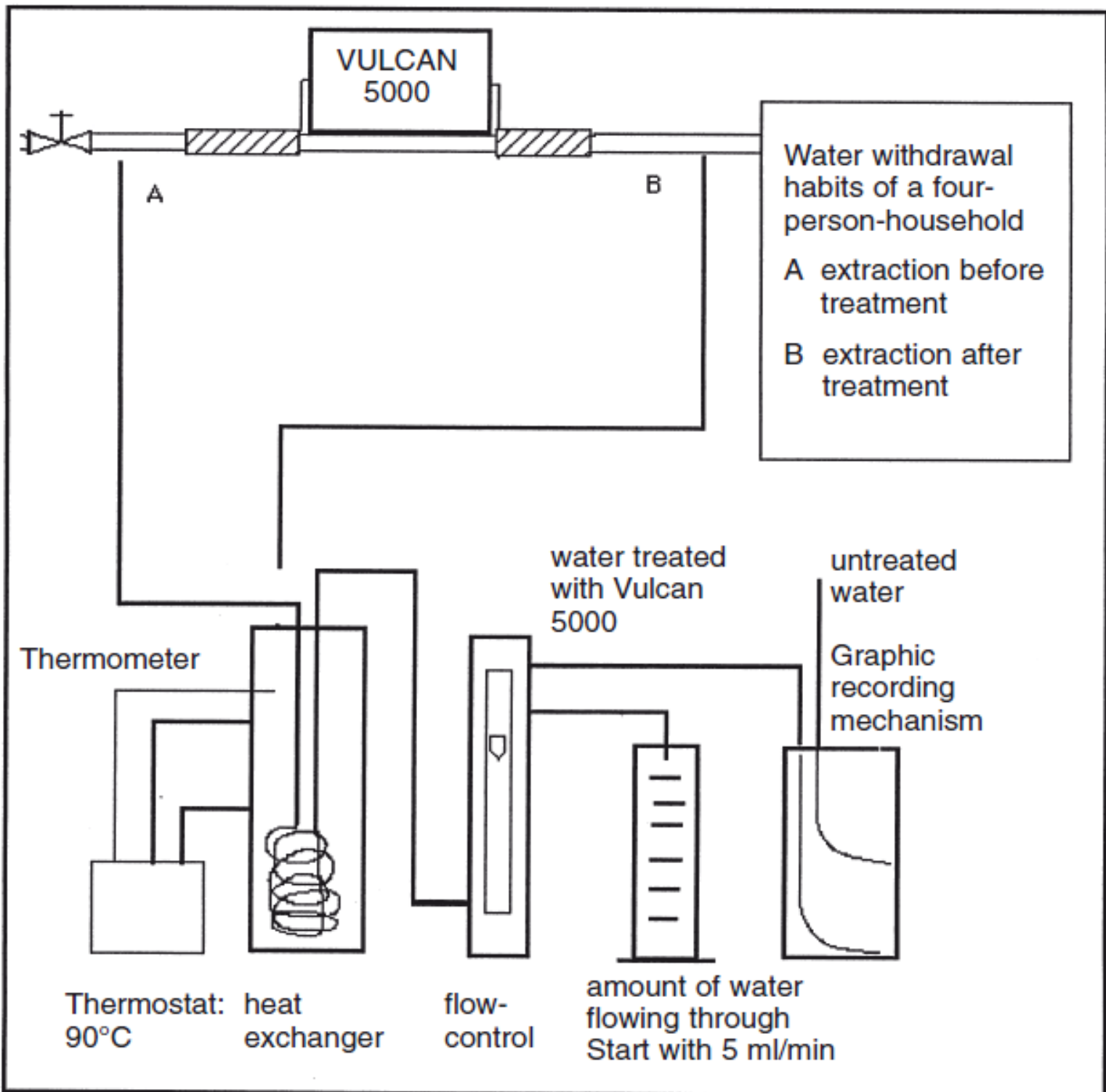
The test was carried out on the basis of the practice-related water withdrawal of a four-person household with the additional regular withdrawal of five litres of water at half hourly intervals for a total of six weeks.

This test showed that the tendency to form lime deposits is reduced considerably by the “VULCAN 5000” water-treatment device. In addition, the effect continues for some days after “VULCAN 5000” has been switched off. Seemingly, the effect is not only limited to a certain part of the pipe, but also passed into the water flowing nearby sections of the pipe.

Reutlingen, 14th of January 1998

(Prof. Dr. D. Frahnö)

Enclosure:  
test diagram



Schematic representation to prove the function  
of the water-treatment device VULCAN 5000

(Only one of the two tests is mentioned in the schematic representation)