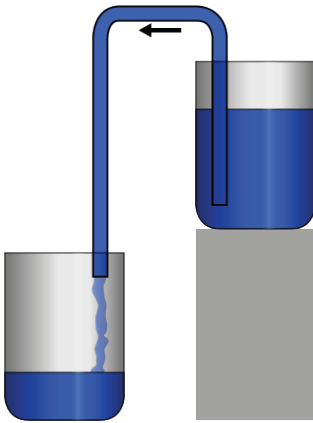


## Design Parameters for a siphon system

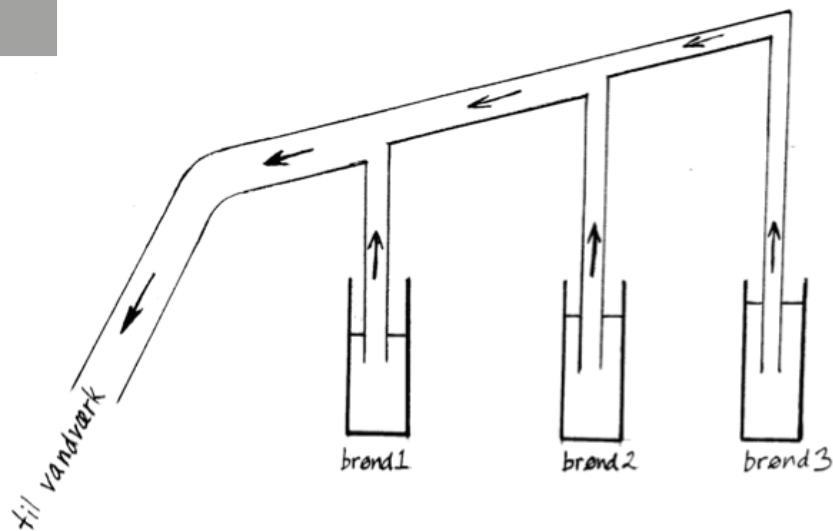
Company: DHI Vand MiljøSundhed, Agern Allé 5, 2970 Hørsholm

Kontakt: Anne Katrine Falk, [akf@dhigroup.com](mailto:akf@dhigroup.com), tlf.: 45 16 90 56



A siphon can conduct water from one vessel to another whose water table is lower, through points that are higher than the water table of the high reservoir, as long as the high point is less than 10.2 m above the high reservoir (at 1 atmosphere), or cavitation will set in.

The flow is driven by the pressure difference between the surface of the high reservoir and the exit point of the siphon.



The siphon principle can be used as an energy efficient method of extracting groundwater, and often in the construction several ground water wells are connected to the same water main. The water tables in the wells are not necessarily the same. The diameter of the main varies and is smallest at the well furthest from the waterwork.

### Question for the Study Group:

What parameters in this system will determine the flow distribution from the wells?

How will the water table in the wells influence the flow?

How will pipe dimensions determine the flow?

Can water go from one well to another?

Where in the system is the greatest risk of cavitation?