



Forschungsbeitrag

## **Increase of the Suction Head by Means of the "Air-Lift" Method**

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The use of suction methods for cleaning operations in inaccessible holes has many practical advantages. A major difficulty is the limited suction depth which can be achieved in normal use this being controlled by the atmospheric pressure, allowing only 10 m suction head in the case of water. The addition of air to the material in the 'air-lift' method allows greater depths to be achieved. The present article reviews the underlying principle and limitations of the 'airlift' technique.

For the cleaning of sewer systems and deep boreholes in many cases suction operation is the only practicable method because:

- the lowering of a pressure pump with its driving-motor is rather difficult and expensive or,
- the cross-sections are too small for it, or
- solids carried in the water cause heavy pump wear.

The suction head however is limited by the atmospheric pressure so that theoretically water can be sucked up only from a maximum depth of about 10 m, and high-density mixtures only from smaller depths.