

Smart way of back-flushing filters in remotely located drinking water treatment plant

The Flush Truck



Deacidification filters in water treatment plant are generally designed for back flushing to remove insoluble products caused by reaction, especially the so-called undersized particles produced during deacidification. Back flushing reduces the resistance of the filter, restoring its original efficacy. The undersized particles mix with other contaminants and drain away with the sludge water. Deacidification plant used by smaller rural water supply companies is usually remotely located, which means that cost and effort needed for permanent installation of back-flushing equipment and power supplies are prohibitive, and there is usually no room for such equipment in smaller plant anyway. The lack of a back-flushing facility often leads to overloading of the treatment equipment, so that the deacidified water no longer

meets the requirements of the water authority's ordinance.

Mobile alternative

To get round this problem, the rural council of the Bavarian village of Saldenburg found an innovative solution in which the *Ingenieurbüro Wolf* and the *CO 3 – Büro für Gestaltung* designed a mobile back-flushing system. Only minor and inexpensive modifications were needed to adapt the filter plant itself to mobile back-flushing.

Forced air back-flushing restores the efficacy of deacidification filters

The plans were based on a "Unimog" vehicle. This well-proven workhorse is used in innumerable German local authority vehicle fleets. Its most important features are its off-road capability and the power take-off for driving external equipment. There is more than enough space on its loading platform for the back-flushing equipment that centres on a model BB





The "Unimog" provides the driving force in more ways than one

The rotary blower that helps to ensure drinking water quality was manufactured at KAESER's Gera factory

Compact KAESER rotary blower with hydraulic drive. The hydraulic pump is driven by the Unimog's power take-off shaft. The use of hydraulic drive allows the capacity of the blower to be matched to a large range of filter sizes with correspondingly different back-flush requirements by regulating the Unimog's engine speed. During the design of the system, close attention was given to ensuring that standards of cleanliness and hygiene would be maintained, even during transport and storage. Simple and safe operation was of particular importance in making the decision to use this reasonably priced and rugged alternative, which, as the user confirmed, has fulfilled all expectations. No problems have been experienced with handling or hygiene.

Mark service number 02 for further information.



Air connection fittings are the only modification needed to the treatment plant to enable the use of mobile back flushing