

KEMPER Leak Detection System

- reliable protection against flooding in all buildings
- with DVGW and WRAS approved cut-off technology according to EN 13828



KEMPER

The problem

Leaks in water systems can cause major damages and high costs.

The installation of water systems, e. g. heating, cooling and domestic services, entail the risk of leaks and flooding that require critical consideration. A leak can lead to destruction of highly-sensitive inventory such as in computer rooms and in archives. In commercial buildings, an interruption of business can also mean a loss of customers. The loss of data and the time before full restoration are extremely expensive.

When intangible assets are affected in the private sector, the personal loss is usually irreplaceable.



In seasonally used properties (e. g. holiday flats) that are not supervised for long periods of time, the consequence of leaks can be immense.

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Damage caused by leaks

The solution



Control Module



KHS-VAV ball valve



Water sensor

Prevention with the KEMPER Leak Detection System

Leak detection with sensors: Dedicated detection of accidental water leaks prevents enormous consequential costs. As soon as the sensor detects a leak, it forwards a signal to the control module that triggers isolation of the water supply.

Protection through time-controlled operation

Damage prevention through 7-day programming: Over and above the basic settings of the leak monitor, it can be programmed to open and close the safety valves periodically. This cuts off the respective supply pipe during absence or non-use, e. g. after closing time.

Application example: computer room

Three KHS-VAV-plus ball valves are connected in parallel to the control module. The sensors are placed in the false floor in the computer room. The leak protection system can be expanded with up to 10 sensors (5 per circuit). This method detects leaks early on. Computer failure with the associated data losses are prevented since the three KHS-VAV-plus ball valves simultaneously cut-off the PWC, PWH and PWH-C. An audible device can be connected to the system, which can also send a fault signal to the BMS.



Application examples

Application example: Archive

Important documents can be protected from damage by selectively placed sensors, that interact with the KEMPER leak

controller. Different rooms can be monitored by the two sensor circuits that can be connected to the control box. Optionally

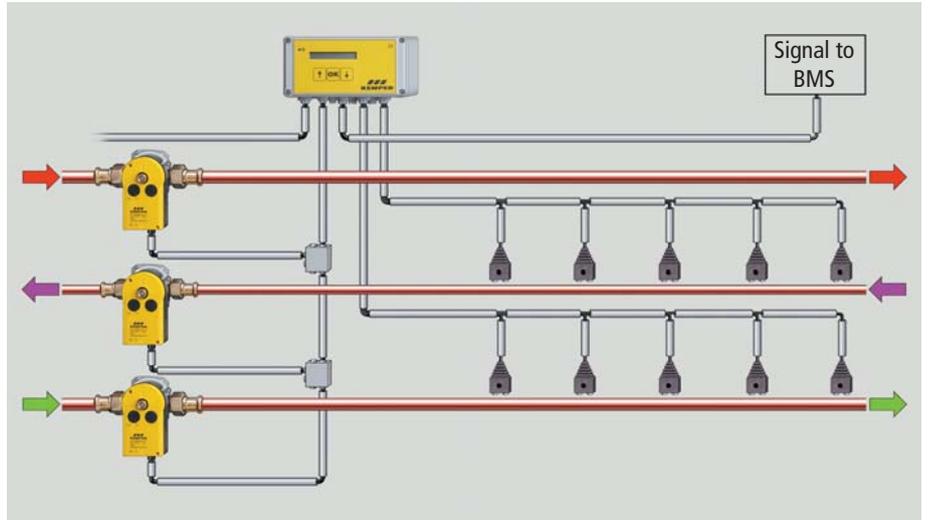
the time functions allow for total damage protection outside normal operating hours.



The functions: Leak detection

Flexible room monitoring

Sensitive rooms can be selectively monitored with this system as each control module can monitor two zones; each connected to up to five sensors. The control module can operate up to 10 motorised valves wired in parallel. Optional audible and visible alarms can be connected and a signal sent to the BMS via a "volt free contact". The system allows the isolation valves to be operated by an external contact for maintenance purposes.



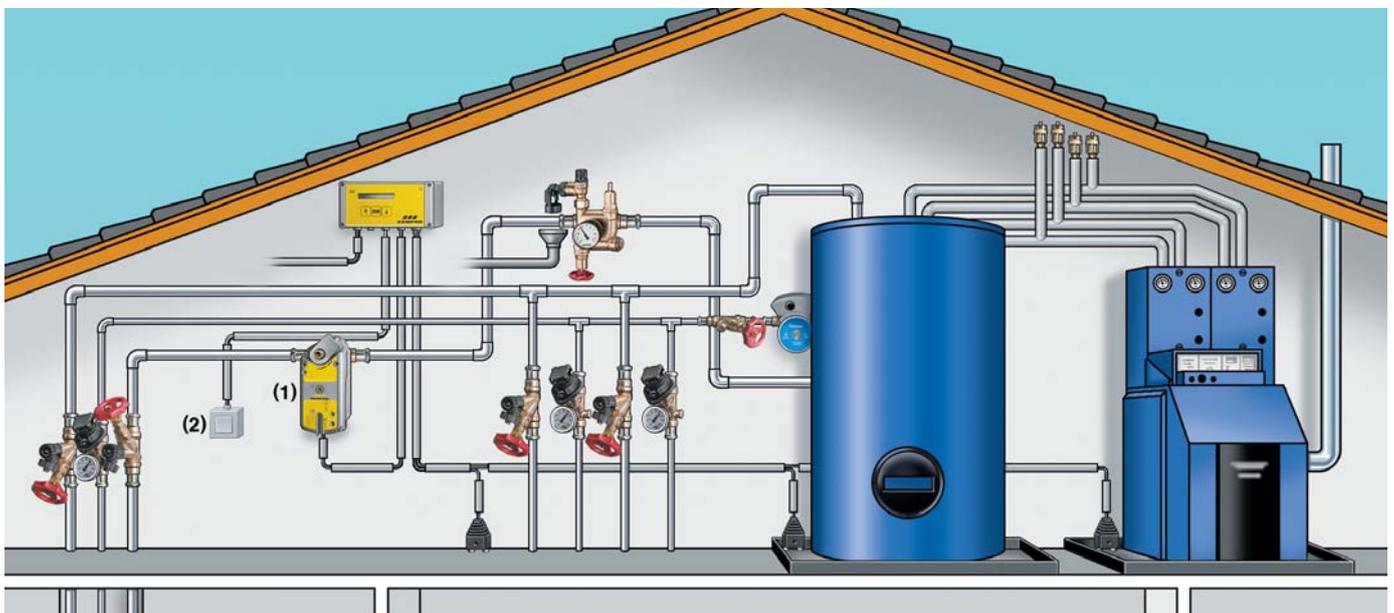
Flexible room monitoring

Plant room in a roof void

A dedicated detection system in a roof void can isolate the water systems in the event of a leak. This could be in the domestic water, heating or even a leaky roof. This will

prevent damage to the building structure and contents. In large buildings, the alarm signal can directly be sent to the BMS. The external button (2) makes it possible to use

the leakage safety valve as a shut off valve for e. g. maintenance.

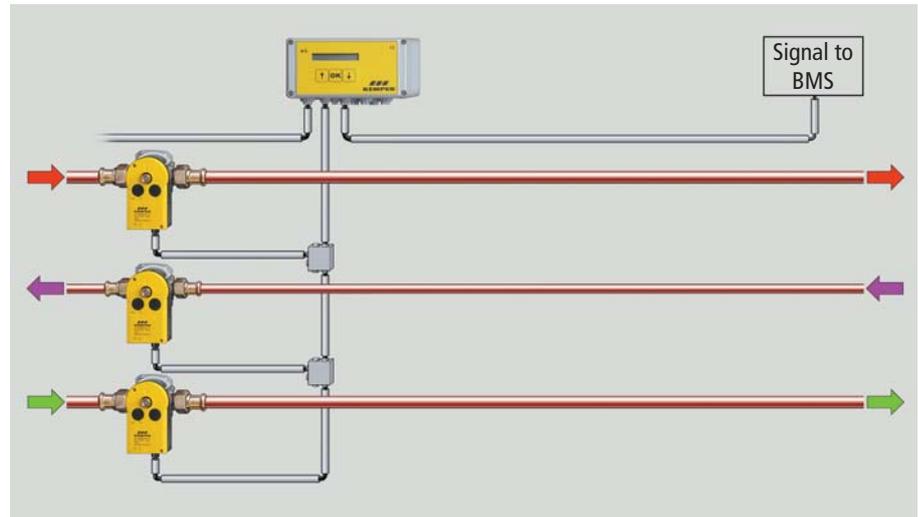


The functions: Timer control

Timer control

This can be used to selectively isolate specific areas, or the whole building, for different time periods.

The time controlled shut off can prevent serious water damage during periods of non-use or non-supervision, e. g. council facilities, or at the weekend. Up to 10 ball valves can be controlled in parallel.



Timer control

Laundrettes

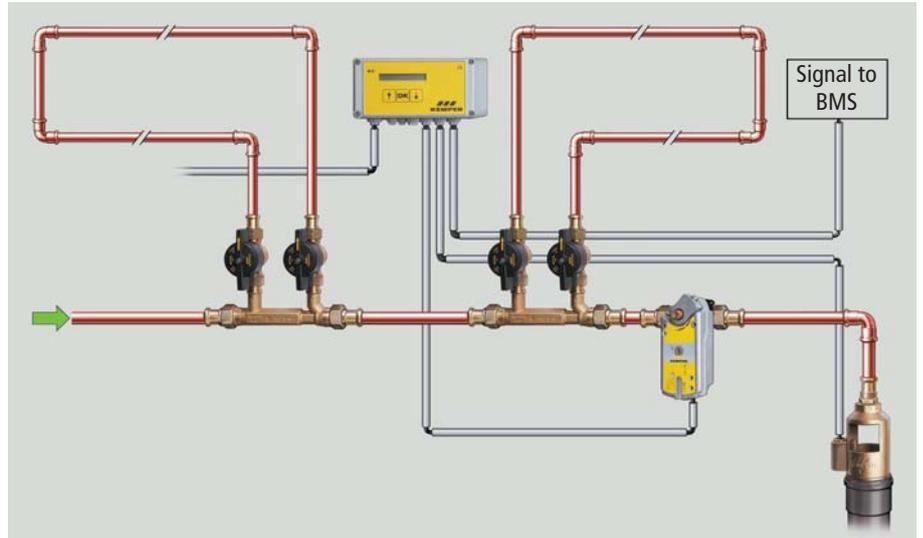


After closing time, the water lines to the machines are automatically isolated. Damages are prevented. Safe and reliable.

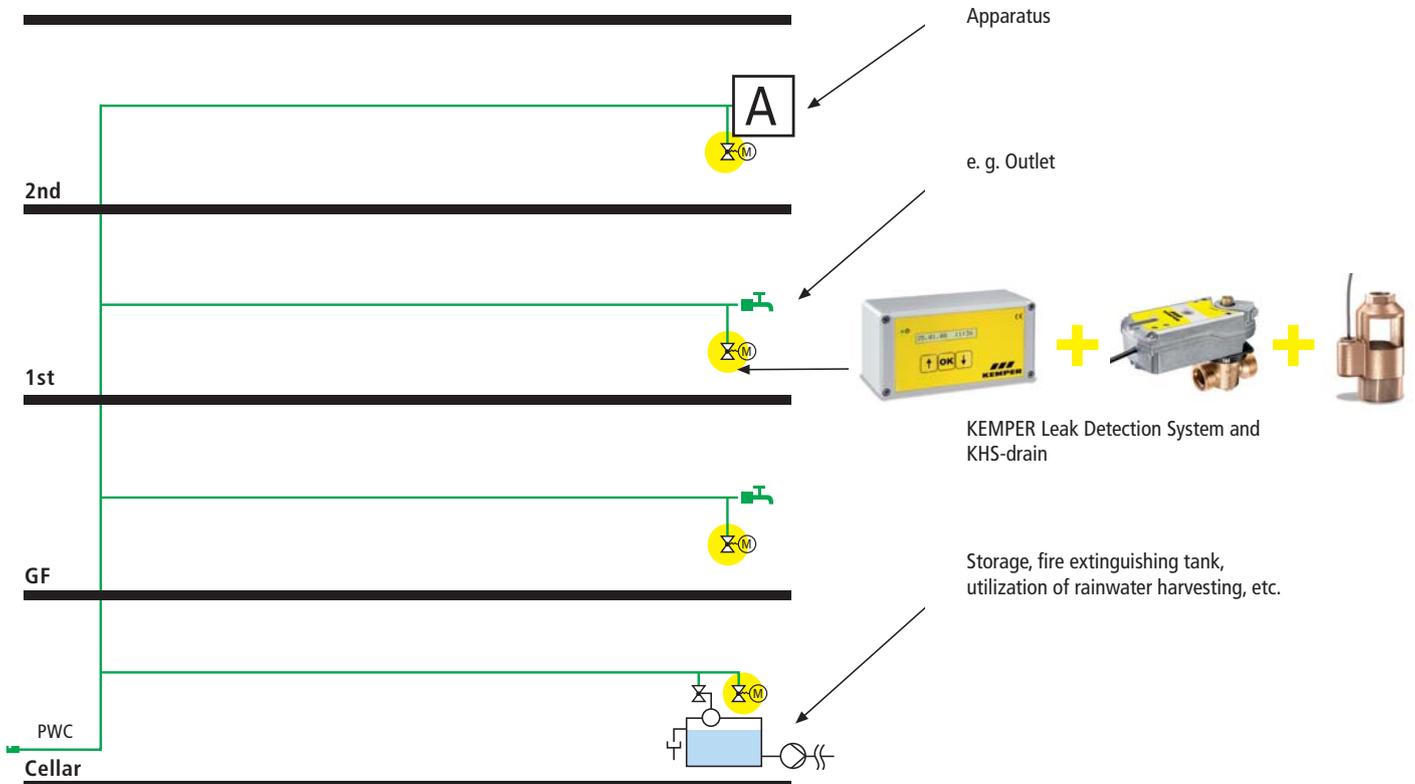
The functions: Controlled water exchange

Maintain hygiene

In buildings that are used erratically, or infrequently, it is mandatory to maintain the quality of the domestic water system. This can be achieved with the KEMPER Leak Detection System. Potable water hygiene is maintained through controlled water exchange. Furthermore, regularly scheduled water exchange prevents Microbiologically Influenced Corrosion (MIC) (a cause of damage in copper piping systems).



Hygiene and safety of potable water



Water exchange in circuit extremities or seldom-used pipe sections through selective use of the KEMPER Leak Detection System in combination with the KHS-drain monitor.

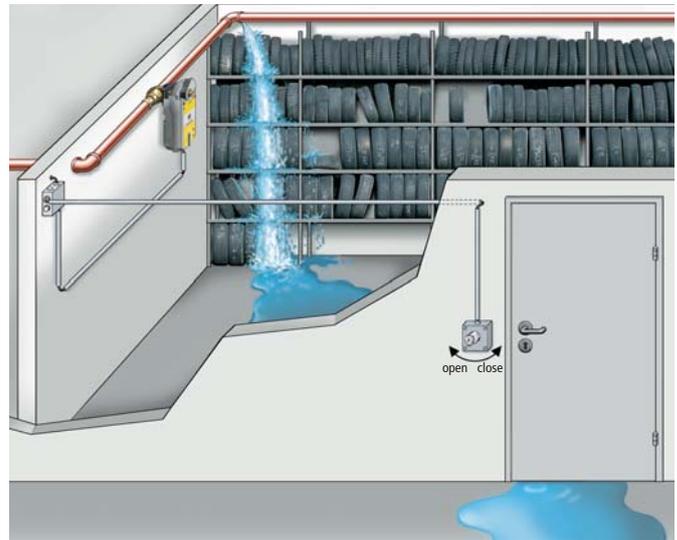
Recommendation:

The drained water should be collected in a storage tank (e. g. rain water harvesting system, outdoor irrigation systems, etc.).

The problem

It is not unusual for the water systems to be installed in false ceilings or at a great heights, e. g. in factory buildings. This makes them very difficult to reach. The result is that if there is a leak, the water leaks for a long time before proper action can be taken.

A serious problem area is locked premises. In the event of leakage, valuable time is lost until access is gained. In such cases, the use of motorised cut-off valves in combination with an external isolation switch is preferred.



Closing the KHS-VAV-plus via a isolation switch when the door is locked.

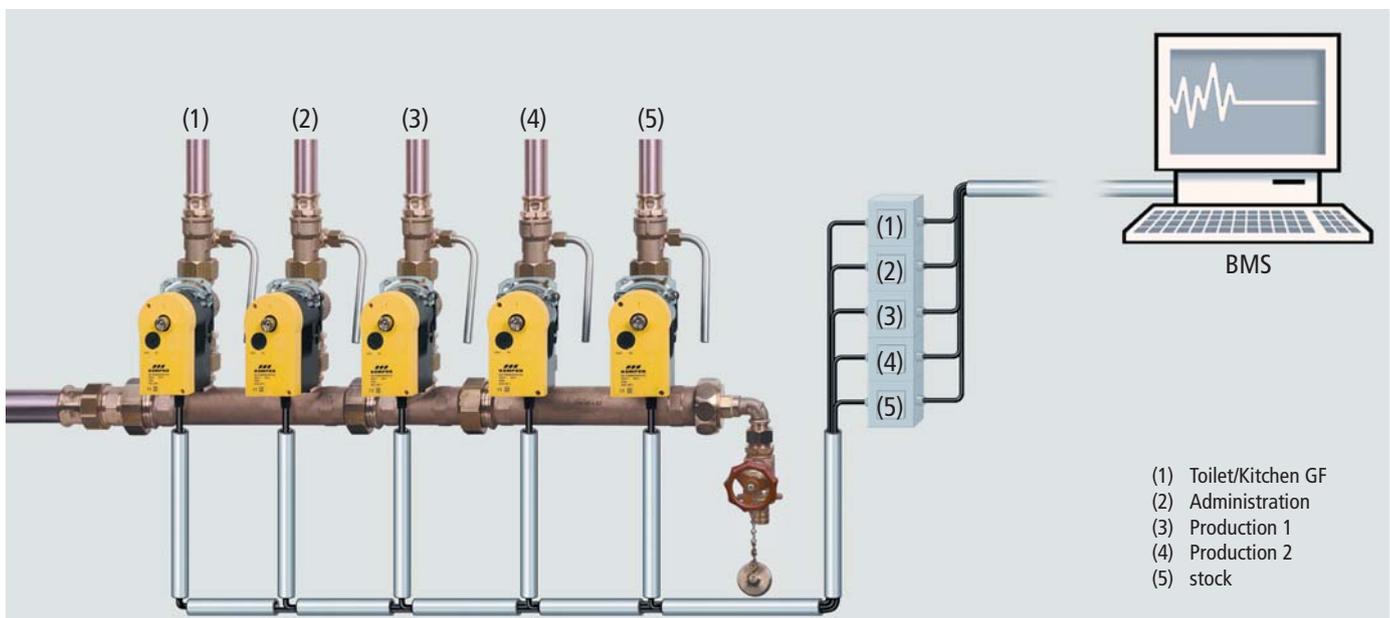
Isolation via Building Management System

The solution

Prevention using manual or automatic isolation equipment from KEMPER. When leaving the building, house, apartment,

etc., the KHS-VAV ball valve is closed with a motor either manually using a switch or automatically through the BMS. Programmed

service intervals guarantee the functioning of the motor-driven ball valves.



The product

- easy to operate
- effective and efficient
- WRAS approval



KEMPER Leak Detection System

Figure no.	Nominal size
with VAV with servodrive (supply voltage 230 V AC)	
620 00 015	DN 15, MT (G) 3/4"
620 00 020	DN 20, MT (G) 1"
620 00 025	DN 25, MT (G) 1 1/4"
620 00 032	DN 32, MT (G) 1 1/2"
with VAV with spring-reset servo drive (supply voltage 230 V AC)	
620 01 015	DN 15, MT (G) 3/4"
620 01 020	DN 20, MT (G) 1"
620 01 025	DN 25, MT (G) 1 1/4"
620 01 032	DN 32, MT (G) 1 1/2"

contains a leak detection control box with integrated timer and KHS-VAV ball valve with 230 V servo drive and a water sensor



KHS-VAV ball valve with servo drive

Figure no.	Nominal size
686 04 015	DN 15, MT (G) 3/4"
686 04 020	DN 20, MT (G) 1"
686 04 025	DN 25, MT (G) 1 1/4"
686 04 032	DN 32, MT (G) 1 1/2"



KHS-VAV-plus ball valve with spring-reset servo drive

Figure no.	Nominal size
686 05 015	DN 15, MT (G) 3/4"
686 05 020	DN 20, MT (G) 1"
686 05 025	DN 25, MT (G) 1 1/4"
686 05 032	DN 32, MT (G) 1 1/2"



**KHS-drain with overflow monitor
DN 20, DN 25, DN 32**

Figure no.	Nominal size
688 00 020	DN 20, FT (Rp) 3/4"
688 00 025	DN 25, FT (Rp) 1"
688 00 032	DN 32, FT (Rp) 1 1/4"



Water sensor with 2 m connection cable

Figure no.	
620 00 001	2 m cable length

- reliable detection of a leak by using the water sensor with immediate system isolation
- space-saving, easy retrofit package for all types of existing buildings, as well as new buildings
- scheduled programming gives automatic prevention when the building is unoccupied
- acoustic and visual alarms can be utilised
- the leak detection signal can be forwarded to a building management system (BMS)
- prevention of Microbiologically Influenced Corrosion (MIC) through regularly scheduled water exchange (maintenance of hygiene quality)



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