

GROHE Sense Guard protects your home by tracking the use of water and detecting anomalies.



It is an intelligent, self-learning device – the more water information it collects, the better your home is protected.



By adjusting itself to your personal settings and household situation, GROHE Sense Guard gives you tailored water security.

## GROHE Sense Guard: 7 water functions for maximum water security

1



Tracks normal water use

2



Detects unusual water consumption

3



Detects high flow – for example from burst pipes

4



Set the maximum outflow of water

5



Protection boost with GROHE Sense

6



Manage exceptional water requirements via the garden sprinkler mode

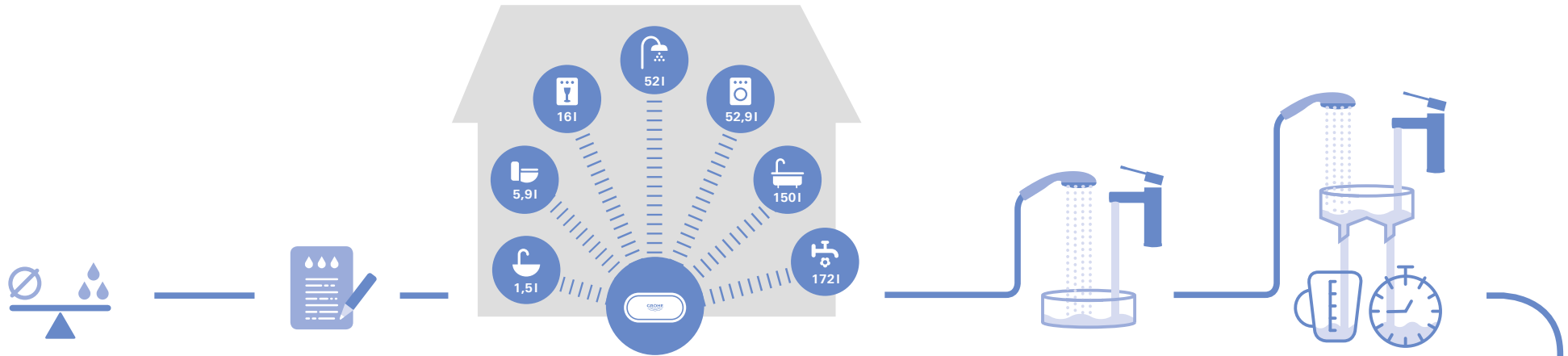
7



Even detects micro leaks in most cases

## 1 How does GROHE Sense Guard track normal water use?

We track all water events in a house, as well as the water flow rate.



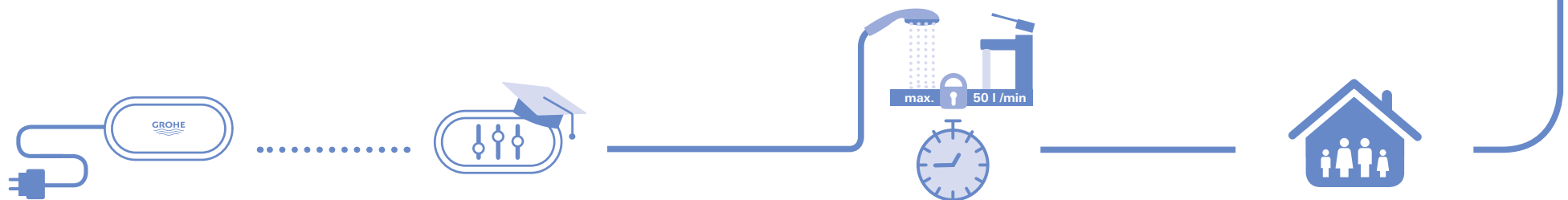
GROHE Sense Guard learns about your normal water use so that it can detect unusual water consumption – indicating a potential problem.

So it takes note every time you use water ...

... for example when you use the shower, the toilet, the washing machine or any other source of water, or several sources at the same time. A typical toilet flush uses on average 5.9 l, an average bath takes 150 l.

We call the total water being used for one or more simultaneous activities a “water event”.

During a water event, the water flow rate is measured as well as the duration.



And at any time you cannot open the valve, you can pull out the power plug so you can have water at your disposal.

Below the 50 l/min threshold, GROHE Sense Guard’s self-learning algorithm – AqualQ – will adjust it’s behaviour to accurately reflect the households situation, shutting off the water only in case it detects anomalies.

During a water event, GROHE Sense Guard checks if the 50 l threshold is reached. If this is the case, it shuts off the water supply.

The maximum flow rate is set at 50 l per minute. Even with multiple family members showering or using the toilet at the same time, water use will fall below this amount.

## 2 How GROHE Sense Guard monitors my water system.

We detect unusual water consumption through our algorithm.



GROHE Sense Guard monitors 3 important parameters: water flow, water pressure & water/system temperature.



GROHE Sense Guard constantly monitors water usage and compares it to the learned household profile.



If your use of water extends over an unusually long time, exceeding the dynamically learned critical threshold, this can indicate a problem.



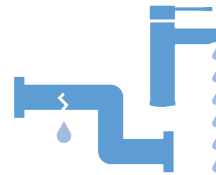
Installing GROHE Sense sensors in critical locations accelerates detection of a possible problem.



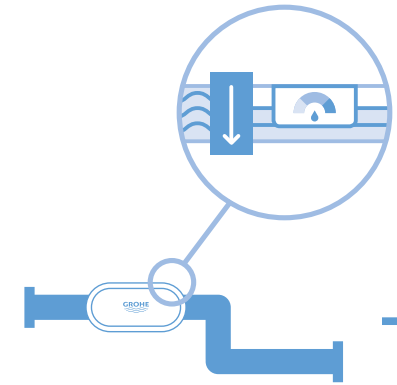
By the way – at any time you have the option of shutting off the water from your smartphone or on the device.



In this case you receive a warning on your mobile device and depending on your settings, the water supply is automatically shut off allowing you to act.



If a pressure drop is detected, this could indicate a leaking tap or toilet or the presence of any other minor leak.



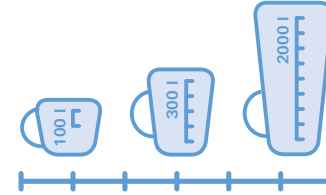
As an additional method to detect minor leaks, GROHE Sense Guard temporarily shuts off the water supply several times per day for a few seconds each time and measures the pressure.

### 3 How a burst pipe can be rapidly detected.

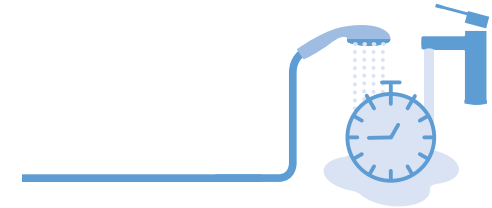
Either through high flow rate, or by detecting that the maximum outflow of water has been exceeded.



1. A vast amount of water is released at once (e.g. over 300 l in one water event)



The upper threshold determines the maximum outflow that you can adjust between 100 l and 2000 l – depending on your needs.



2. The flow rate is extremely high, above the learned threshold – for example: 50 l/min.

GROHE Sense Guard does not actually detect the burst itself, nor its location, but uses two indicators that indicate that a burst could have happened.



Even when no WLAN is available, the algorithm on the device works. And in case of a detected burst pipe, GROHE Sense Guard will shut off the water. Your home is protected.



It acts instantly by automatically shutting off the water and sending you an alert.



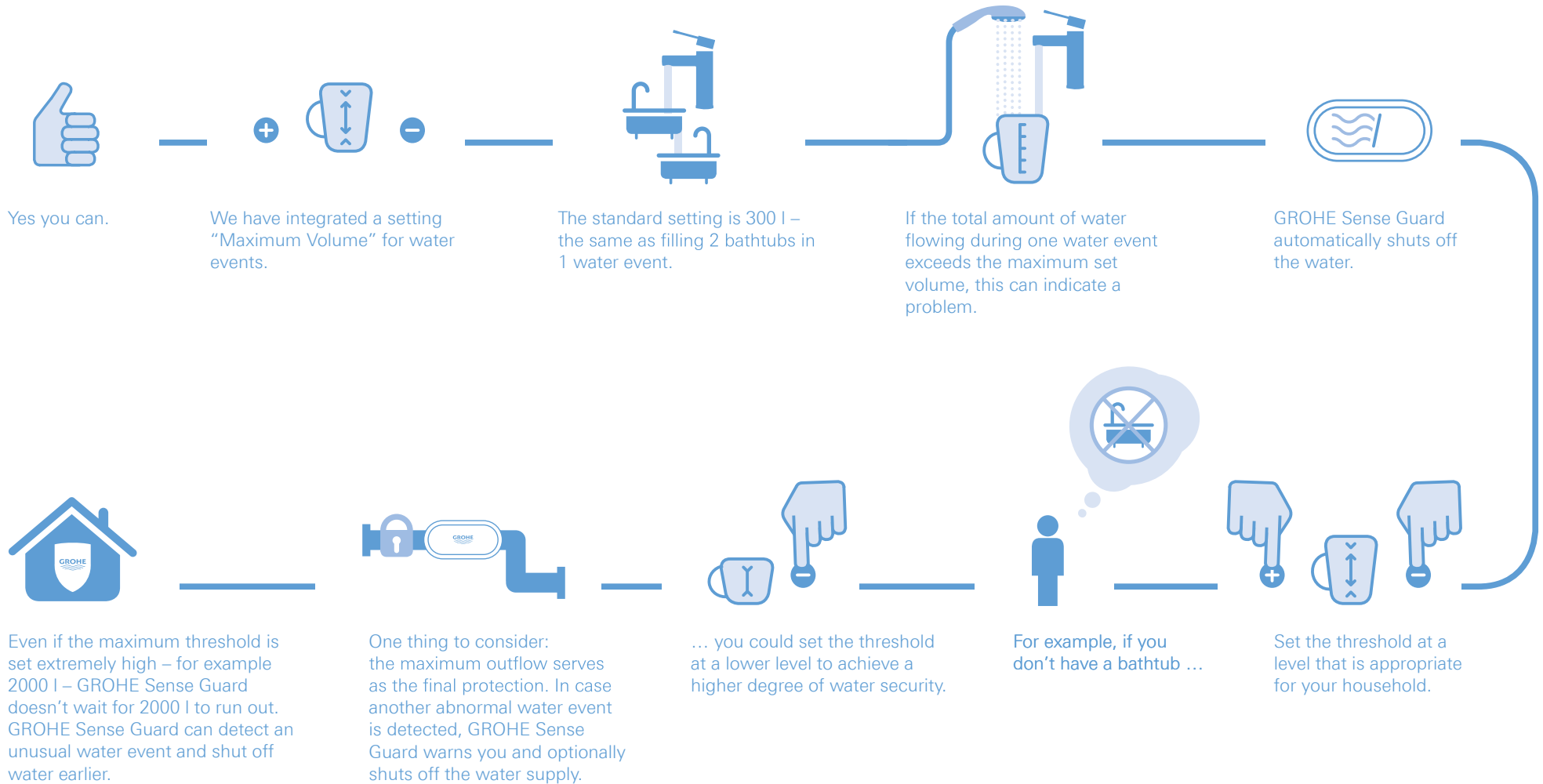
... a burst water pipe.



GROHE Sense Guard makes an immediate diagnosis: ...

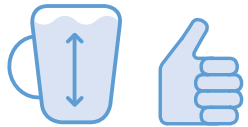
#### 4 How unusually high water consumption can be detected.

Use the app to set the maximum water usage and combine it with GROHE Sense Guard's self-learning algorithm.



## 5 How GROHE Sense Guard works in combination with GROHE Sense.

Through a combination of settings and the installation of a GROHE Sense device in high risk areas.



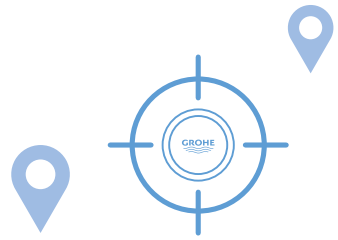
The first thing to do is to set the maximum volume threshold to the optimal setting.



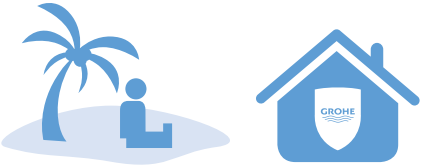
Further, installing GROHE Sense water sensors in critical locations accelerates detection of possible problems.



If GROHE Sense sensors are used in combination with GROHE Sense Guard, and GROHE Sense detects flooding, GROHE Sense Guard shuts off the water automatically.



Finally, determining the optimal location for GROHE Sense in the room itself is crucial. The closer to a risky area, the faster a leak will be detected and the faster GROHE Sense Guard shuts off the water.



This way, the amount of escaping water can always be kept to a minimum – even if you're on holiday.



And of course, as with all significant water events, you are informed on your smartphone via push notification and optionally via email as well.

6 How the "Garden Sprinkler" function works.

Yes, you can override shut-off through the "Garden Sprinkler" mode.



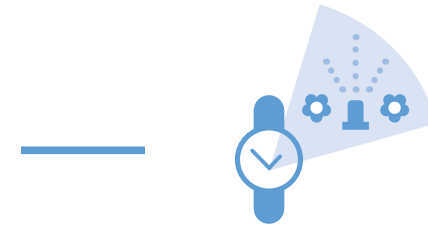
If you need an unusual large amount of water – to fill a swimming pool – or a smaller amount of water for an extended period of time – to water the garden ...



... the "Garden Sprinkler" mode allows you to override the automatic shut-off function.



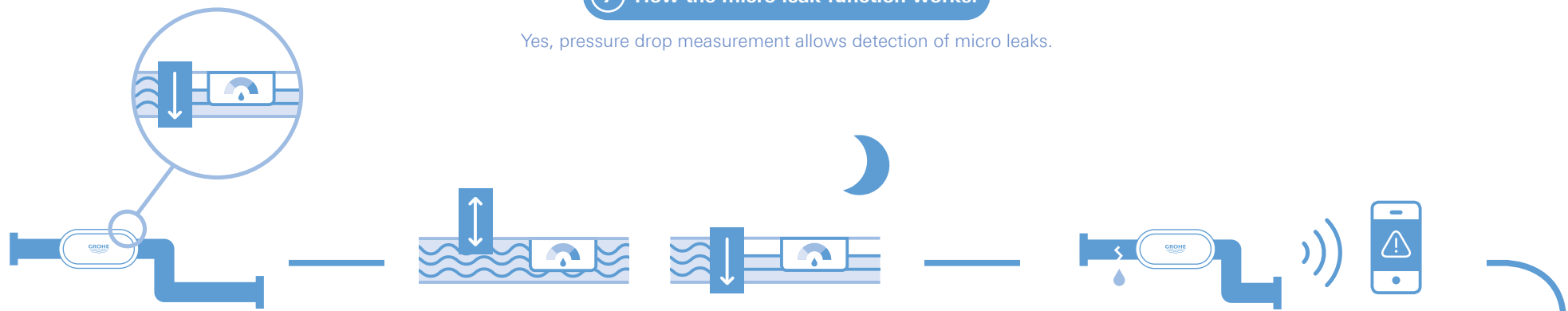
That way GROHE Sense Guard will not shut-off the water. Of course you will still receive alerts on your smartphone if an anomaly is detected that should lead to shut-off.



Activate the "Garden Sprinkler" mode and adjust the time of the day at which it should ignore automatic shut-off.

## 7 How the micro leak function works.

Yes, pressure drop measurement allows detection of micro leaks.



Yes. GROHE Sense Guard can detect these tiny leaks by measuring pressure drops.

An extensive micro leak test is conducted once every 24 hours during the night, at a time when water is normally not being used. For this test, the water supply is shut off for a short period of time.

If GROHE Sense Guard registers a pressure drop several days in a row, you will receive an alert.



It simply stops the pressure drop measurement, opens the water supply and tries the test at a later time.

Turning on a tap or flushing the toilet during the night causes an overlarge pressure drop. GROHE Sense Guard recognises the difference.

By the way, should you need water while a pressure drop is running – during the night for micro leak detection or during the day for minor leak detection – that's no problem.

Micro leak detection is restricted in some cases – typically depending on your water supply system or on special devices installed in your house like booster pumps or American fridges. Please ask your installer and check our technical product information to find out how detection works most effectively or how to adapt your sanitary installation.

Micro leaks can be difficult to find but don't have to be a big problem – even over a long time. If you can't find the leak yourself, consult your installer or a professional leak detection company to review the installation for anomalies, also using our technical product information.