

# Electronic Anti-Scale System Hospitality Sector



**Salt-Free  
Chemical-Free  
Magnetism-Free**







## The alternative to water softeners

The hospitality industry goes through a large quantity of water on a daily basis.

Restaurants need water for food preparation, such as drinking water and in the kitchen.

Furthermore, laundry service, swimming pools, heating or cooling tower operations are just a few examples how hotels utilise water.



## Benefits of our descaler

- ▶ Reduces scale deposits in the piping system
- ▶ Longer life and improved performance of appliances
- ▶ Fewer maintenance visits required on water heaters, washing machines, etc.
- ▶ Reduction in cleaning time and labour costs
- ▶ Reduction in heating costs
- ▶ Savings on soap and cleaning agents
- ▶ Softer towels and bed linen



a) Without treatment



b) With treatment

Restaurant kitchens often have problems with scale deposits, bacterial growth or unpleasant odors. Several studies explain the benefits of a descaler in applications such as ice machines, grease traps and kitchen equipment.

Pictures a/b show the results in a grease trap before and after treatment. As our descaler works without chemicals or salt, the natural taste of water is preserved. It reduces the amount of scale deposits and offers you a permanent solution without ongoing costs, repairs or replacements.

## Improved water quality

Pools are half-open loop systems which suffer constant water loss as the pool water evaporates. The water demands constant maintenance and chemicals need to be added to keep bacteria, algae, and air quality in compliance with standards.

Our descaler improves the water quality and with this the effectiveness of certain substances. It reduces the cleaning effort for the pool itself, the water line, for tiles, grids, floors and walls.



## Prevents scale and rust

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- ✓ Reduction of existing scale in the piping system
- ✓ Installation without cutting the pipe
- ✓ From 1/2" up to 40" pipe diameter
- ✓ Works on all pipe materials – iron, copper, plastic, stainless steel, PVC, compound pipes, PE-X, etc.
- ✓ 100% maintenance-free
- ✓ Eco-friendly solution without salt or chemicals
- ✓ Prolongs life of machinery and equipment
- ✓ Important minerals remain in the water
- ✓ Long life – fully cast in acrylic
- ✓ 10 year international warranty



## Application examples

Hotels and resorts	Kitchens
Restaurants and kitchens	Cooling towers
Wellness centers	Golf courses
Spas	Camping grounds
Swimming pools	Sport facilities
Food processing	...

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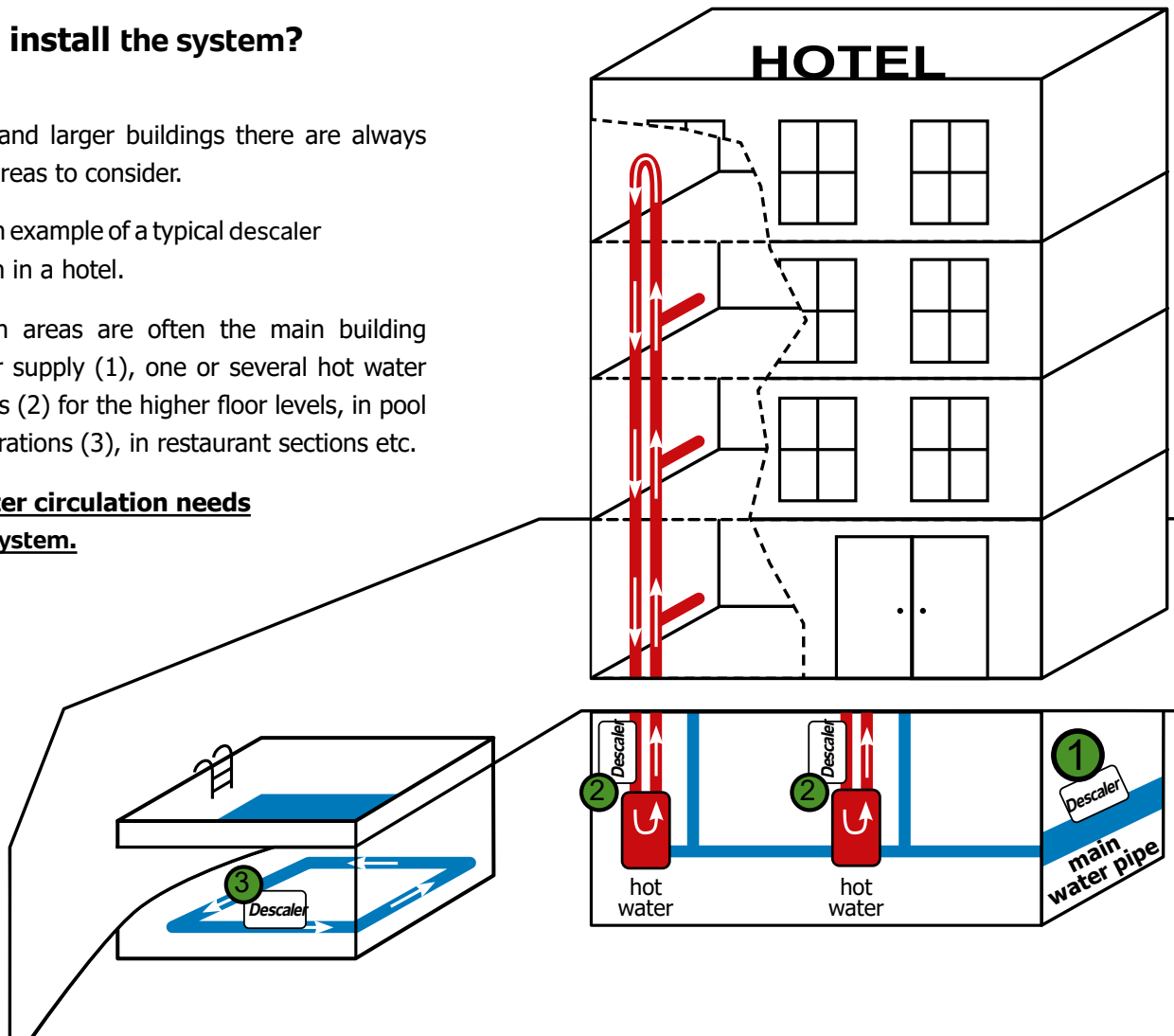
## How to install the system?

In hotels and larger buildings there are always different areas to consider.

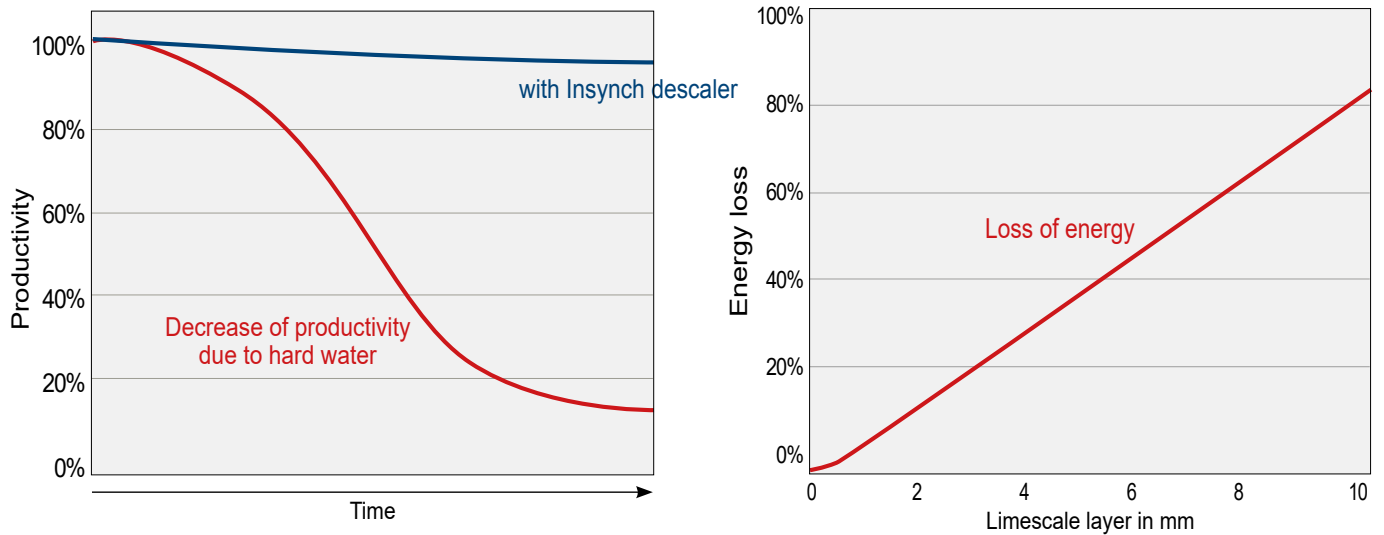
Below is an example of a typical descaler installation in a hotel.

Installation areas are often the main building cold water supply (1), one or several hot water circulations (2) for the higher floor levels, in pool & spa operations (3), in restaurant sections etc.

**Each water circulation needs an own system.**



## Productivity and loss of energy due to hard water



### Money savings in hotels with our descaler

- 1 Energy Savings on hot water and heating systems (e.g. 1 mm of limescale deposit = 15% more energy consumption).
- 2 No need of de-scaling of water heater every two years by a specialist.
- 3 Savings of up to 50% on laundry detergent.
- 4 Savings on softeners for your washing machine.
- 5 Minimal use of salt/soap for your dishwasher.
- 6 Savings on aggressive cleaning agents.
- 7 Savings on shampoo, soap or expensive skin care products.
- 8 Reduction in cleaning time and labor costs.
- 9 Longer life span of all appliances and pipes (washing machines, dishwashers, coffee machines, water heaters, etc.).
- 10 Fewer maintenance visits required on water heaters, washing machines, dishwashers, etc.



## Benefits for your hospitality application



### Piping System

Protects the whole piping system and reduces already existing deposits. Limescale is now washed away in the water as a fine powder.



### Shampoo and Soap

Due to the changed surface structure of the water, shampoo and soap lather easily.



### Tiles and Fittings

The common water (limescale) splashes can be easily removed with a damp cloth or sponge.



### Food and Beverages

Keeps their natural taste and important minerals remain in the water.



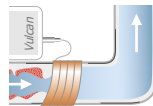
### Dishwashers

Use less and eco-friendly washing-up liquid or tabs. Dose the salt according to soft water (least amount).



### Skin and Personal Hygiene

Skin and hair (especially allergic people) feels softer. Less expensive care products are needed.



### Reduces Bacteria

With the reduction of limescale, the breeding ground for bacteria, biofilm and biofouling is reduced.



### Washing Machines

Use less washing-up liquid or washing powder according to soft water (least amount). No need of softener or decalcifier. Lower maintenance costs.



### Nozzles and Shower Heads

Are easy to clean without need of aggressive and expensive cleaning agents. They last longer.



### Cooling Towers

Less cleaning intervals. Reduced water consumption and maximised tower cycles.

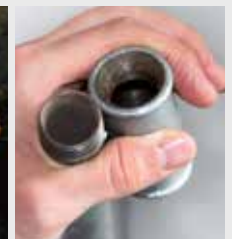
## Visible results of our water treatment - before and after



Swimming pool filter



Toilet bowl



Piping system

## Quality

- ▶ Over 40 years of experience in physical water treatment
- ▶ Successful in more than 70 countries worldwide
- ▶ 10 years international warranty



More information you will find online at [www.insynchenergy.co.uk](http://www.insynchenergy.co.uk)





Hyatt Regency Xi'an is a five-star hotel located on the side of Qujiang South Lake. It has a lake view and is in the middle of the city with the comfort and quiet. Most rooms have a separate balcony and lake view.

**Installation details**

Location: Hyatt Regency Xi'an

Area: The water main of the Chinese kitchen

**Installation purpose**

The two steamers in the Chinese kitchen had been scaled badly, they had been corroded and damaged in 2 years. The client used to clean with acid once a month, but the steamed food had the taste of citric acid, and the acid would even damage the equipment. Therefore, the client is looking for an efficient way to remove the scale without bad odor after cleaning.

**The results**

One month after the descaler was installed, we opened the sewage outlet of the Chinese kitchen, and found that the scale scrap came out. At the same time, we compared the sewage outlet of the western kitchen without the descaler, there is no scale coming out. The hotel manager is very satisfied with the results and is making a new purchase.



The system was installed on the main water line of the Chinese kitchen.



The scale scrap came out of the steamer in the Chinese kitchen.







The 5-star Barceló Bávaro Palace hotel is one of the top luxury hotels in Punta Cana, designed specifically for people who love constant sunshine, the gentle sound of the Caribbean breeze whispering in the palm trees, and beautiful crystal-clear waters with a coral reef. The hotel is beside one of the 10 most stunning beaches in the world.

**Installation details**

**Location:** Barceló Bávaro Palace  
La Antagracia, Dominican Republic  
www.barcelo.com

**The results**

The project began with a mechanical room energy audit resulting in a great opportunity to upgrade the existing equipment with a very short payback period. The original installation was sold with an estimated payback of less than 2 years. To our customer's happy surprise, the actual payback was 9 months! The hotel maintenance manager is very impressed with the performance of the systems, this opened up many additional opportunities including the subsequent chiller and cooling tower replacements.

Before the system was installed in hotel's main hot water line, the storage tanks had a solid 3 cm thick scale layer inside them and the pumping pressure from the booster set was at maximum while being unable to deliver adequate water pressure to the end of the line hotel rooms. After the 3 months period, an inspection of the inside of the storage tanks revealed that the scale layer was soft allowing them to mechanically clean them removing most of the calcium deposits. Other the following 12 to 18 months, the distribution lines also cleared up resulting in much improved flow and lower pumping costs from the booster sets.

The manager was instrumental in the approval of the resent trial installation of the system in the Royalton White Sands (Jamaica).

**Installation purpose**

Most of the hotels in the area of Bávaro/Punta Cana in eastern Dominican Republic depend on ground water wells for their domestic water supply, using traditional water softening equipment to reduce the scale and hardness of the water. The fact is that some of these resorts have very poor maintenance resulting in extensive scaling of cooling towers and domestic hot water piping and equipment.



Aerial view of Barceló Bávaro Palace next to the Bavao beach, Higüey





**Karnavati Club Hotel in Ahmedabad, India**

A prestigious name known among the most known clubs and recreational organizations of Ahmedabad is **The Karnavati Club**. The club, with an area of 500,000 sq.feet is located on the Sarkhej-Gandhinagar Highway. The club was established in 1989. And today, it is an ultimate success in the arena of recreational clubs.



Two systems were installed.



Salt based softener is replaced by our descaler.





Lhasa 21 Inn



Installation details

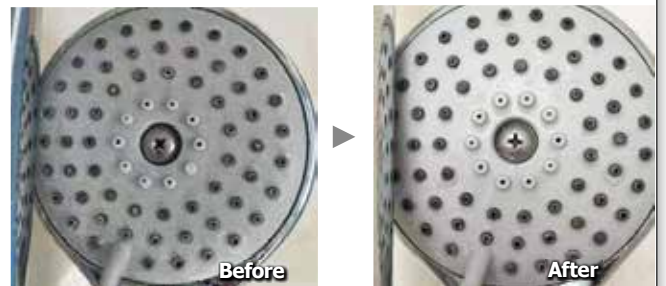
Location: Lhasa 21 Inn, Tibet  
Area: Water main

Installation Purpose

In April 2017, a 6-ton tubular solar water heating system was installed. Without any water treatment, as of May 2018, due to the serious scaling problems, manual descaling and system maintenance had been made for 3 times. Even solar glass tubes, headers, valves, pumps, etc. must be replaced, the client had a large loss.

The results

1. After installing the system for 1 month, the scales of the shower heads have been significantly reduced.



2. The scales on the float valve in the hot water tank have been softened, they can easily be tapped off.



Pipe joint fittings had to be replaced because of scale and rust.

3. After 3 months of installation, we cleaned the hot water tank, and found a large amount of scales were drained out. The photo below is the scales removed from the water tank. Also, the heat transfer efficiency of the solar system has been significantly improved, the performance almost has stayed the same just like the beginning of installing our system.



Heating rods were damaged by scale.



**Acacia Hotel, Manila, Phillipine**

The Acacia Hotel is a five-star Hotel locating in Alabang, Manila.

Acacia Hotel Manila exhibits the excellence of a homegrown brand that is deeply rooted in passion, excellence, and service.

The hotel prides itself in creating an atmosphere of hospitality and exemplary service.



Like other hotels, they use chiller systems with cooling towers to provide cool air for whole hotel. And with hard water, they have problems with scale in the heat exchanger and they have used chemicals to solve.

With a desire to replace chemicals, they are looking for physical water treatments and find Vulcan.

**After installing the unit, their heat exchanger always stays clean without any chemicals.**

Here is the comment of the chief engineer: “We just finished reprocessing our chillers and the results are positive. There was a significant decrease on our chillers’ condenser approaches. We have recorded 2 to 6 condenser approach after the reprocessing. Our cooling towers remained clean and some of the stock-up and passing valves are now usable. As regards the performance of the unit, we found it to be working well.”

**Installation Location:**

Main water supply of the cooling tower

**Purpose:**

- Clean scale deposit
- Prevent scale
- Reduce maintenance costs
- Replace chemical treatment and softener systems

**Before the installation:**

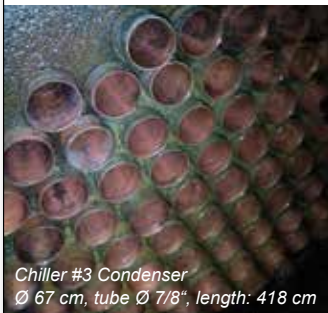
- Scale deposits in the heat exchanger
- Pipes clog

**After the installation:**

- Chiller and cooling tower stay clean
- No need to use chemicals



Our unit on cooling tower water pipe



Chiller #3 Condenser  
Ø 67 cm, tube Ø 7/8", length: 418 cm



inside the tube



inside the tube







**Installation Details**

Location: Palm Beach Hotel Hammamet, Tunisia

- Purpose:
1. To protect the hot water circuit, the kitchen and the Spa
  2. To use an eco-friendly solution, without chemicals
  3. To reduce the workload of cleaning the pipes with high pressure water gun

**Palm Beach Club Hammamet**

The hotel is located on one of the most beautiful beaches of the Gulf of Hammamet, in a magnificent 5 acres garden.

All rooms have sea, garden or pool views with terrace or balcony.



After the Unit had been installed for **6 months**, the boiler was opened: scale had been softer and left out.

The scale deposits were easily removed with a water gun.

The scale deposits were drained out of the boiler with ZERO chemical.



### Reason for the anti-scale system installation

Engineering had to manually remove scale from pumps, valves, kitchen equipment and from the 102 individual electric hot water heaters every 6 months because the property relies entirely on hard ground water which caused significant scale issues year after year.

### Result installation the System

The Chief Engineer reported after an initial 6 months following installation of the electronic anti-scale system they were able to easily flush out already dislodged scale from each tank heating unit – instead of scraping away hard scale from the elements. After a second inspection the units were found to be almost entirely free of scale. Future inspections have now been reduced to annual, random inspections only – which is felt to be sufficient to ensure overall domestic water piping system cleanliness.

### Inspection after 6 months

One of the water heaters at a Sea View Bungalow (photo) was opened for inspection and showed much dislodged scale particles at the bottom of the tank, with some easily removed soft scale still present on the element only. This water heater unit had not been scheduled for random inspection since installation of the unit at the Resort.

### Additional benefits reported

The General Manager and CE reported that shortly after the unit had been installed, the linen being washed at the inhouse Laundry plant was softer and whiter. In addition, Food and Beverage staff reported brighter glass ware with the detergents working much better. Housekeeping staff reported that the usual white spots on bathroom tubs, counters and floors had entirely disappeared and that outlets of showers and taps needed no longer special attention with only basic wiping being sufficient to maintain their shine.

### Holiday Resort Lombok, Indonesia

189 Bungalows / various types of guest rooms / extensive landscaped gardens / 2 Swimming Pools / several Food and Beverage outlets

[www.holidayresort-lombok.com](http://www.holidayresort-lombok.com)



Anti-Scale System installed



The little remaining scale is soft and easily flushed out since installation of the Anti-Scale System.



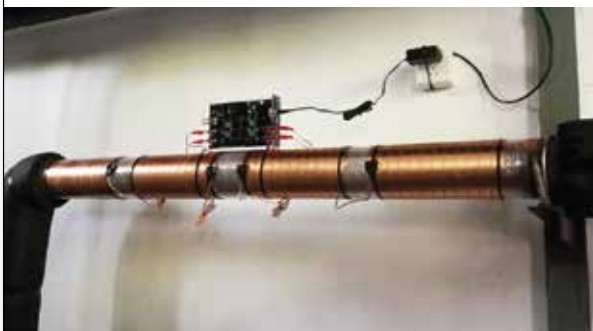


Slender West Lake Hot Spring Resort covers an area of 130,000 square meters, with 40 hot spring pools with different design and functions. The outdoor hot springs have 6 featured themed spaces.

The hot spring water of Slender West Lake comes from 2,000 meters below the surface, and the water temperature reaches 70 °C. It contains a variety of minerals, such as silicic acid, lithium and strontium...

### Installation details

- Area:
- 1 unit was installed in the machine room where the hot spring water is taken.
  - 1 unit was installed on the delivery pipe for hot spring water.



The pipe insulation was removed, and unit was installed in the machine room where the hot spring water is taken.



The hot spring water pipeline is far away from the villa, so the water has to be pumped. The unit was installed on the delivery pipe.

### Installation purpose

For many years, the resort has had problems with scale in the hot spring water pipe. The pipe has to be cleaned several times a month: the workers use a high-pressure water gun to clean manually, or even cut the pipe and replace the clogged section. The hotel manager has been looking for a solution which is convenient, reliable and efficient.



Hot spring water flows out of the pipe joint, it builds up stalactite-like scales over time.

### The results

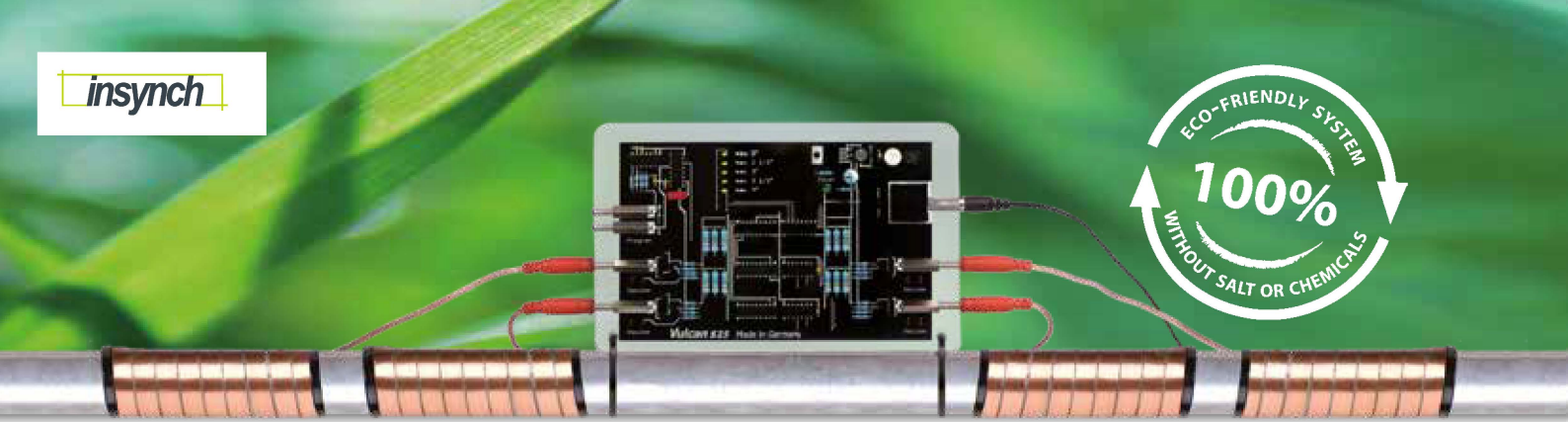
The workload of pipe cleaning has been greatly reduced. Without the system, they had to clean several times a month. After installing the system for 2 months, it is almost unnecessary to clean the pipe.



The pipe inner wall on the day when the system was installed.



After installing the system for 3 months, the scale has been significantly reduced.



HOTEL



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