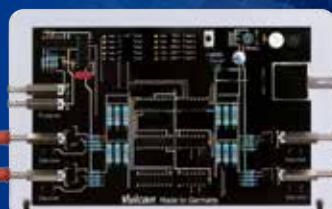




The Electronic Anti-Scale System For Hospitality Applications



Salt-Free
Chemical-Free
Magnetism-Free



MADE IN

GERMANY





Vulcan – 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 utilize water.



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



a) Without treatment



b) With Vulcan treatment

Restaurant kitchens often have problems with scale deposits, bacterial growth or unpleasant odors. Several studies explain the benefits of Vulcan 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 Vulcan works without chemicals or salt, the natural taste of water is preserved. Vulcan reduces the amount of scale deposits. It 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.

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





Prevents scale and rust

- ✓ 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
- ✓ 25 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 | ... |



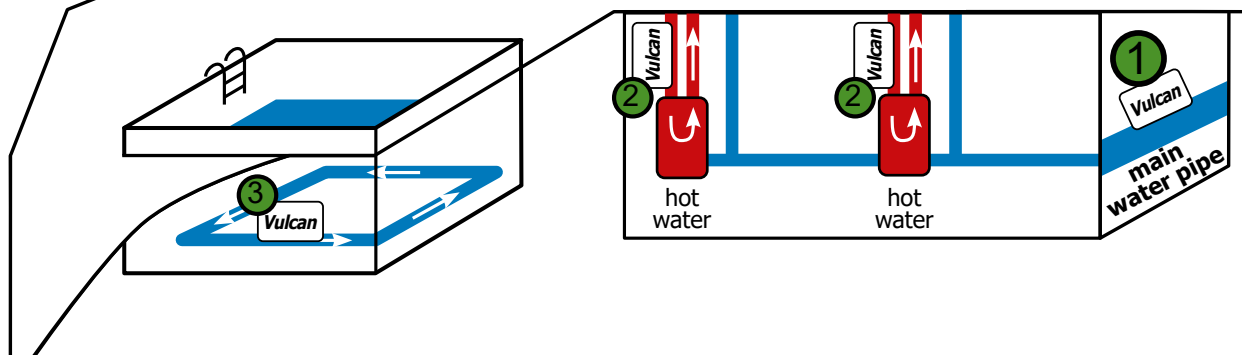
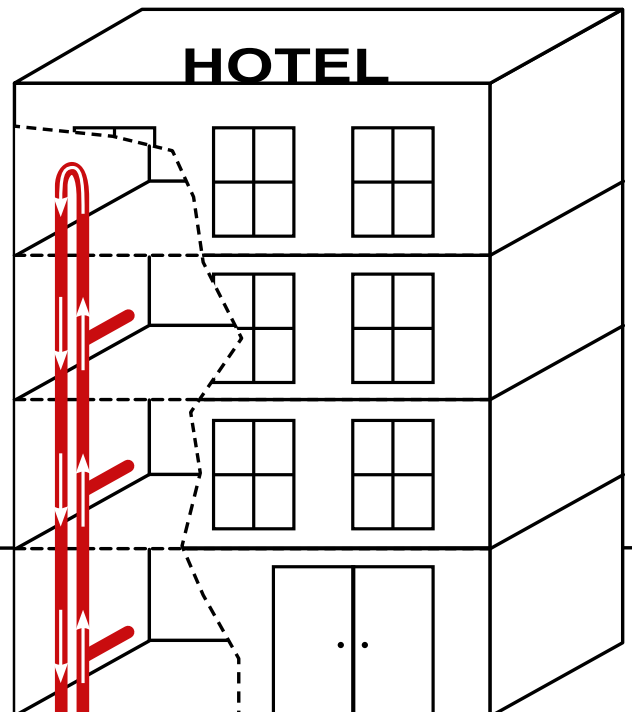
How to install Vulcan?

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

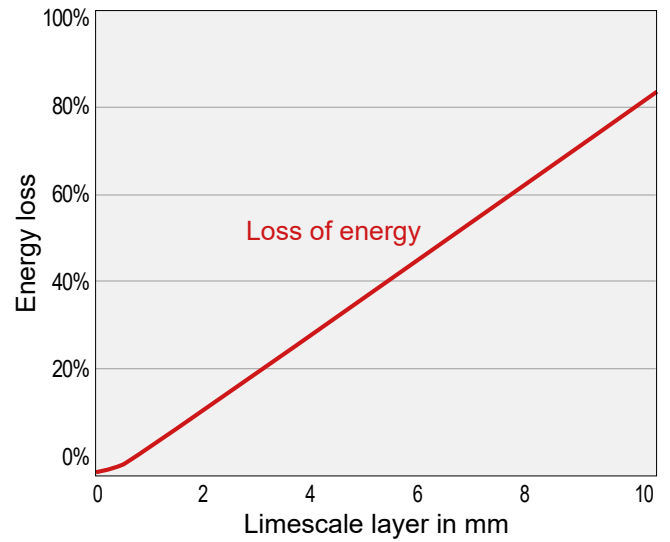
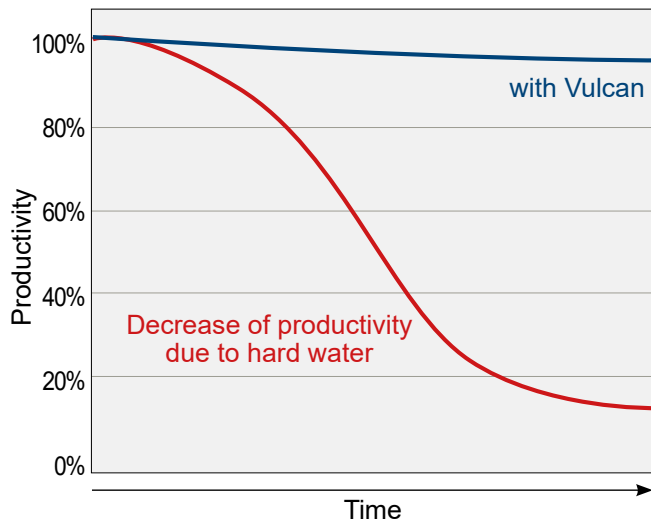
Below is an example of a typical Vulcan installation in a hotel.

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 Vulcan.



Productivity and loss of energy due to hard water



Money savings in hotels with Vulcan

- 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

Vulcan 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.



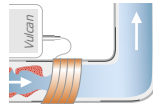
Dishwashers

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 maximized tower cycles.

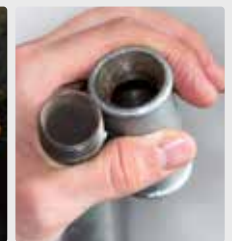
Visible results of Vulcan water treatment - before and after



Swimming pool filter



Toilet bowl



Piping system

Quality — Made in Germany

- ▶ Manufactured by Christiani Wassertechnik GmbH (CWT) in Germany
- ▶ Over 40 years of experience in physical water treatment
- ▶ Successful in more than 70 countries worldwide
- ▶ 25 years international warranty



More information about Vulcan you will find online at www.cwt-vulcan.com



Installation Details

Location: InterContinental Kunming ★★★★★
www.ihg.com/intercontinental
 Model: Vulcan S10
 Area: The water main of the kitchen
 Purpose: Gently solve the scaling problems of the entire kitchen water system: the reduced water volume, the increased water pressure, the clogging of the dishwasher outlet, the scaling of the steamer, the low heating efficiency, the increased maintenance and the reduced overall efficiency.



Vulcan S10 was installed in the main water pipe of the restaurant kitchen



The untreated steamer

The scale was in flakes and could not be drained out of the steamer's drain hole. To test the effectiveness of the Vulcan system, no cleaning process was carried out before installing the Vulcan S10.



The steamer after using Vulcan S10 for 2 months

The scale has been completely turned into powder, so there is no need to open it for cleaning, just by operating the regular drainage function, it can keep the hot water tank clean and free of scale. Due to the good results, the cooperation will also be carried out in the hotel's hot water supply system and central air conditioning system.



ibis Surabaya City Center Hotel

Economy hotel for business and leisure

The 224 modern and minimalist rooms feature the new ibis bedding, 4 modern High Tech meeting rooms, a lobby bar and restaurant. Perfect for business and leisure travelers.

Installation details

Location: IBIS Hotel Surabaya
Indonesia

Model: S25

Area: water main

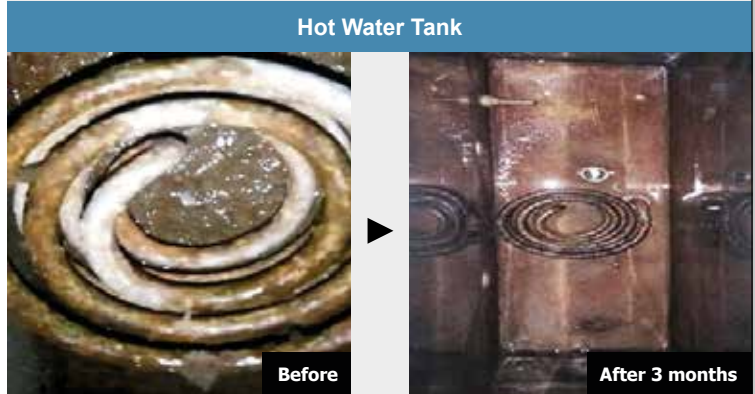
Installer: PT Biosolutions
www.biosolutions.co.id

Vulcan effect — before and after

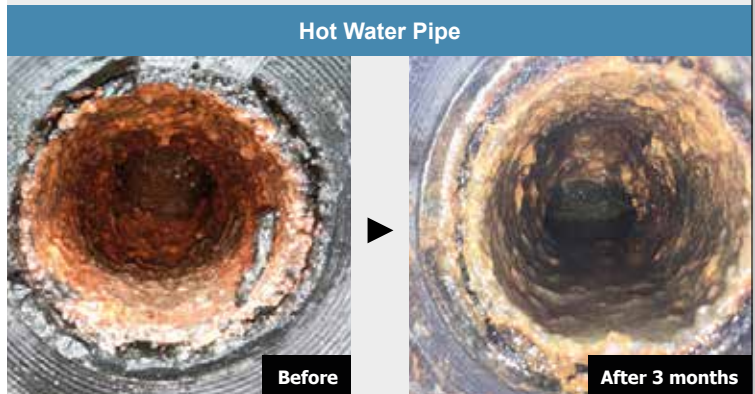
Before installing the Vulcan system, the pipeline had a lot of sedimentation of scale, the client had to do manual cleaning.

After 3 months of Vulcan, it has begun to erode and clean the scale out of the system.

The clients are happy with the performance of Vulcan.



After 3 months scale is no longer forming and the hot water tank is free of scale and sediment.



After 3 months the rust in the pipe has lightened and the amount of scale is gradually reducing.



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
Model: S10
Area: the water main of the Chinese kitchen
Installed by: Hengsheng Chang Environmental Protection Technology Co., Ltd

The results

One month after the Vulcan S10 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 Vulcan, there is no scale coming out. The hotel manager is very satisfied with the results and is making a new purchase.

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 odour after cleaning.



Vulcan S10 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
- Models:** 2 x S100 in hotel's main hot water lines
 3 x S250 for cooling towers
 4 x S500 for cooling towers
- Installed by:** InterClima

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 Vulcan systems, this opened up many additional opportunities including the subsequent chiller and cooling tower replacements.

Before Vulcan S100 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 an S250 in the Royalton White Sands (Jamaica). We will continue to use the Barceló success in our future presentations.

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.



3 chillers were treated by 3 Vulcan S500



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

ROYALTON SPLASH PUNTA CANA

ALL INCLUSIVE PUNTA CANA, DOMINICAN REPUBLIC



RESORTS

ACCOMMODATIONS

RESTAURANTS & BARS



Location:

Memories Splash Punta Cana
Punta Cana, Dominican Republic

Models installed:

2 x Vulcan S500
1 x Vulcan S100

Installed by:

InterClima

Application:

The Royalton Punta Cana Resort & Casino is a 1000 room resort located on the beachfront in Punta Cana, Dominican Republic.

Two Vulcan S500 were installed on the main input pipe in order to combat scale build up and increase efficiency of the three cooling towers.

A Vulcan S100 is also installed on the resorts main hot water system, in order to remove and prevent scale build up in the heaters/boilers, which provide hot water throughout the entire resort and casino.



Vulcan S500 protective casing



Vulcan S500 cable windings

Hotel Méridien N'fis
Avenue Mohamed VI,
Marrakesh 40000,
Morocco

www.lemeridien.com

Le MERIDIEN
N'FIS

Certificate of reference for the Vulcan Descaler

In order to remove and prevent scale and rust issues affecting our pool areas and various hydraulic installations, we have purchased and installed the Vulcan S25 unit from CWT International.

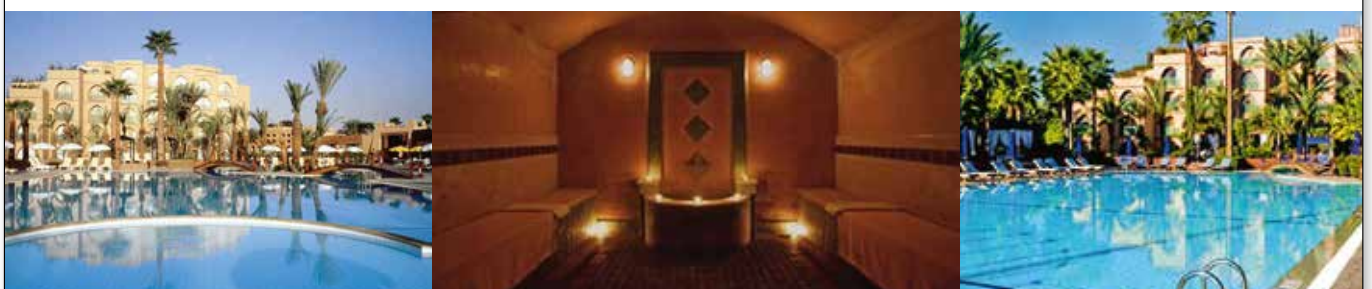
After receiving a very satisfactory result from the Vulcan S25, we plan to entrust the Vulcan Descaler range with any future scale or rust problems in the Le Meridien N'fis.



Hotel Méridien N'fis pool and spa area protected by Vulcan S25

Kind Regards,

A Moursil.
Technical Director.





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.

Installed: **1 x Vulcan S100** for swimming pool
 1 x Vulcan S100 for the utility

Installed by: BENCHMARK Agencies PVT Ltd



Two Vulcan S100 were installed.



Salt based softener is replaced by Vulcan S100.



Acacia Hotel, Manila, Philippines

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 Vulcan S500 unit, their heat exchanger always stays clean without any chemicals.**

Here is the comment of the chief engineer: "The results are positive. We have recorded condenser approach value for 2 to 6 months after cleaning the tubes of the condenser, and there was a significant decrease on our chillers' condenser approaches. 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 works well."

Model: Vulcan S500

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 Vulcan installation:

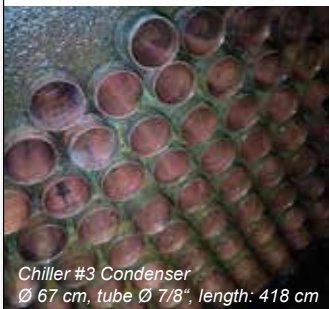
- Scale deposits in the heat exchanger
- Pipes clog

After Vulcan installation:

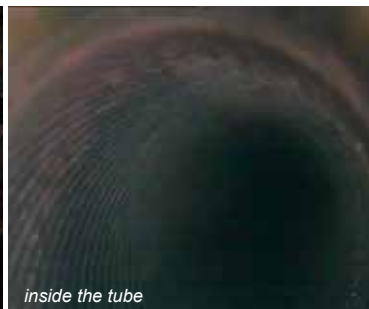
- Chiller and cooling tower stay clean
- No need to use chemicals



Vulcan S500 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

Model: Vulcan S25

- 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

Installer: STPE+

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 Vulcan S25 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 Vulcan 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 of Vulcan S25

The Chief Engineer reported after an initial 6 months following installation of the electronic anti-scale system Vulcan S25 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 Vulcan unit at the Resort.

Additional benefits reported

The General Manager and CE reported that shortly after the Vulcan 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



Anti-Scale System Vulcan S25 installed



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

Lhasa 21 Inn



Installation details

Location: Lhasa 21 Inn, Tibet
 Model: Vulcan 5000
 Area: Water main
 Installed by: Shaanxi Wasser

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 Vulcan 5000 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. See the video here: www.bit.ly/cn-tank



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 Vulcan.



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



Heating rods were damaged by scale.



Guanfang Hotel Honghe

Installation details

Location: Guanfang Hotel Honghe
 Model: Vulcan S25
 Area: On the main water pipe of the guest room Building B
 Purpose: To solve the scaling problems of the central air conditioning system, hot water supply system and kitchen water system

After 2 months of installation

After installing Vulcan, the water supply of Building B is no longer blocked, and the scale of the valve and the shower heads in the guest rooms have been reduced, which also greatly reduces the manual maintenance and improves work efficiency.
 Kunming Guanfang Group has a total of 5 five-star hotels. Because of the successful trial of Guanfang Hotel Honghe, the board of directors of the group has decided that all hotels will use the Vulcan anti-scale system as long as there is scale problem.



Vulcan S25 was installed on the main water pipe of the guest room Building B.



On the left is the pipe (without scale) after Vulcan S25 was installed for 2 months; on the right is the pipe without any water treatment.



Before installing Vulcan S25, it required to clean the scales manually and to replace the heating tube every month.



After installing Vulcan S25 for 2 months, there is no scale formed on the float, the heating tube or the wall.



Reference



Andy Dickson
Vulcan Water Products

Dear Andy,

I just wanted to extend my sincerest thanks to you and your company. I run the Comfort Inn in Moriarty, New Mexico. Anyone familiar with Moriarty knows that the water here is awful. We battle with water hardness like no other place I know. Our hotel had been spending thousands of dollars installing water softeners and going through excessive amounts of salt and descaler to try to keep up. This would manifest itself in calcium buildup in our kitchen and bathroom fixtures, our ice machine, and our pool.

We recently had to nearly replace our ice machine because the water hardness had repeatedly created buildup and in the hotel business, ice is a must for our kitchen and our guests. We would get constant complaints from our housekeepers and guests because as soon as we would get the buildup off of the bathroom fixtures it would be back again and just as hard to get off as the last time. We had to replace fixtures far too often. Since you installed the new Vulcan S100 water system, we are able to easily wipe off any buildup and my housekeeping staff is very pleased. I haven't had to replace any fixtures either. The ice machine works great and for the first time in a long time, we can use the water in the hotel to water plants!

The really good news is our pool. The water was so awful that we had a pool heater break due to the massive calcium buildup. Huge expense to replace. When we replaced the pool heater within months we had to add descaler and it was impossible to keep the chemical balance right. The maintenance on the pool was ridiculous. Since having had the new Vulcan 5000 water system for the pool in addition to the hotel, you would not believe the difference. The pool practically takes care of itself. Maintenance is minimal, the pool stays clear and the equipment just hums.

I would recommend this system to anyone for their business or home. The transformation at our facility has been nothing short of astounding. The money, time, and maintenance we have saved cannot be overstated. In the hotel business where we are open 24/7 that says a lot.

Thank you again, Andy!

Sincerely,

Laurel Bowie
General Manager
Comfort Inn
Moriarty, New Mexico





Days Hotel Beijing New Exhibition Center

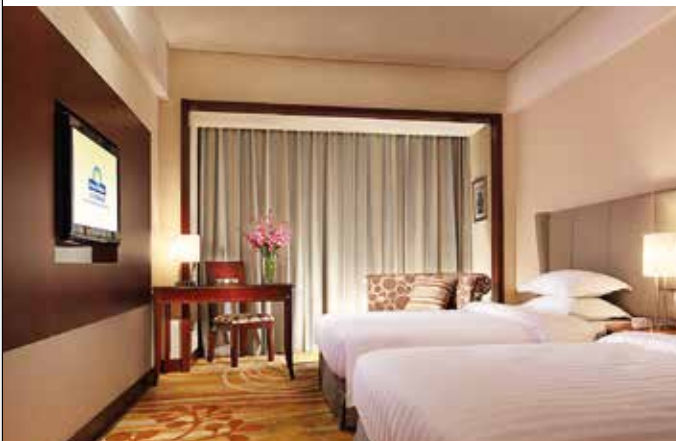
It is an international 4 star business hotel managed by the Days Hotel Group America. The superior rooms range in size from 32 to 83 square meters. The hotel is ideally located close to the New International Exhibition Center and only 5 minutes away from Beijing Capital Airport by car.

Installation Details

- Model: Vulcan S10
- Location: Days Hotel Beijing New Exhibition Center
- Installation area: Installed in the hot water system of the hotel to solve the scaling problems of the plate heat exchanger and the sprinkler heads
- Treatment area: 193 business hotel rooms and suites, a gym, 2 meeting rooms, 2 exhibition areas
- Installed by: Beijing Vulcan Water



Vulcan S10 was installed in the hot water system of the hotel





Models and Sizes

	Vulcan Model	Max. pipe diameter	Max. capacity	Voltage	Wattage	Impulse Bands	Dimensions	Frequency range	Required Space	Programs
Residential Line	3000 	1 1/2" (~ 38 mm)	3000 l/h (13 gpm)	36 Volt	2.0 Watt	2 x 1 m (~ 2 x 39") 10 mm (~ 0.4")	125/80/30 mm (4.9/3.1/1.2")	3-32 kHz	~ 250 mm (~ 10")	1
	5000 	2" (~ 50 mm)	8000 l/h (35 gpm)	36 Volt	2.0 Watt	2 x 2 m (~ 2 x 79") 10 mm (~ 0.4")	150/90/30 mm (5.9/3.5/1.2")	3-32 kHz	~ 350 mm (~ 14")	1
Commercial Line	S10 	3" (~ 76 mm)	15 m³/h (65 gpm)	36 Volt	2.25 Watt	2 x 3 m (~ 2 x 118") 20 mm (~ 0.8")	190/120/40 mm (7.5/4.7/1.6")	3-32 kHz	~ 500 mm (~ 20")	3
	S25 	4" (~ 100 mm)	30 m³/h (130 gpm)	36 Volt	2.25 Watt	4 x 3 m (~ 4 x 118") 20 mm (~ 0.8")	200/130/40 mm (7.9/5.1/1.6")	3-32 kHz	~ 800 mm (~ 32")	5
	S50 	5" (~ 125 mm)	70 m³/h (300 gpm)	36 Volt	2.25 Watt	4 x 4 m (~ 4 x 13' 2") 20 mm (~ 0.8")	200/130/40 mm (7.9/5.1/1.6")	3-32 kHz	~ 900 mm (~ 35")	5
	S100 	6" (~ 150 mm)	120 m³/h (530 gpm)	36 Volt	2.5 Watt	6 x 4 m (~ 6 x 13' 2") 20 mm (~ 0.8")	230/150/40 mm (9.1/5.9/1.6")	3-32 kHz	~ 1200 mm (~ 47")	10
Industrial Line	S150 	8" (~ 200 mm)	180 m³/h (790 gpm)	36 Volt	2.5 Watt	6 x 8 m (~ 6 x 26' 3") 20 mm (~ 0.8")	230/150/40 mm (9.1/5.9/1.6")	3-32 kHz	~ 1800 mm (~ 71")	10
	S250 	10" (~ 250 mm)	350 m³/h (1540 gpm)	36 Volt	2.75 Watt	8 x 10 m (~ 8 x 32' 9") 20 mm (~ 0.8")	280/200/50 mm (11.0/7.9/2.0")	3-32 kHz	~ 2500 mm (~ 99")	10
	S350 	14" (~ 350 mm)	500 m³/h (2200 gpm)	36 Volt	2.75 Watt	8 x 20 m (~ 8 x 65' 7") 20 mm (~ 0.8")	280/200/50 mm (11.0/7.9/2.0")	3-32 kHz	~ 3400 mm (~ 11' 2")	10
	S500 	20" (~ 500 mm)	800 m³/h (3520 gpm)	36 Volt	3.25 Watt	10 x 30 m (~ 10 x 98' 5") 20 mm (~ 0.8")	310/220/50 mm (12.2/8.7/2.0")	3-32 kHz	~ 4500 mm (~ 14' 9")	10
X-Pro Line	X-Pro 1 	30" (~ 750 mm)	works independent from capacity	36 Volt	3.75 Watt	12 x 25 m (~ 12 x 82") 40 mm (~ 1.6")	340/240/50 mm (13.4/9.4/2.0")	3-32 kHz	~ 5600 mm (~ 18' 5")	10
	X-Pro 2 	40" (~ 1000 mm)	works independent from capacity	36 Volt	3.75 Watt	12 x 50 m (~ 12 x 164") 40 mm (~ 1.6")	340/240/50 mm (13.4/9.4/2.0")	3-32 kHz	~ 8200 mm (~ 26' 11")	10



More Vulcan references you will find online at www.cwt-vulcan.com