

"Model of New Water Supply"

~ Optimum for Small & Medium-scale Waterworks ~

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Company Profile

 Ø Company Name : NIHON GENRYO CO., LTD. Ø President : Yasuhiro SAITO Ø Establish : 1939 (80 years old) Ø Capital / Employee : JPY 98M / 72 person Ø Patent : Over 100 (as of 2018) 	
 Ø Business : 1. Filter Media Manufacturing 2. Filter rehabilitation work 3. Cutting Edge Water Treatment Devise "SIPHON TANK & Mobile SIPHON TANK" 	

1. Filter Media JWWA Certified Factory



Registered number : 資H-3

Our TAKAHAGI Plant is a certified factory, which is evaluated to conform to the evaluation standards of products and quality control system from the Japan Waterworks Association (JWWA) Quality Certification Center.

We are a manufacturer of Filter Media established in 1939, our media is used more than 80% of WTP in Japan

More than 80% of drinking water in Japan passes through filter media of NIHON GENRYO. We manufacture and supply variety of filter media in conformity with Japan Water Works Association (JWWA) regulation. We use experience of 80 years and cutting-edge technology to manufacture our filter media.



Why performance of the filter media is getting worse?



2. Filter rehabilitation works

Regularly perform rehabilitation work instead of replace media to stabilize the normal filtration function



Ø Recover filtration function and enable to supply safe and sustainable water

Ø Reusable filter media of natural resource

S Enable to check incidental facility

NIHON GENRYO started Filter rehabilitation works for resource protection since 60 years ago in Japan.

Develop Original Washing technology "SIPHON Washing"



SIPHON TANK

3. "SIPHON TANK"

Filtration device "SIPHON TANK" installed SIPHON washing technology with no filter media change required.

Ø No filter media change required

- Ø Resilient to high turbidity raw water
- Ø Reduce drain of backwashing
- **Ø** Easy maintenance
- 𝖾 Eco-friendly filtration device





1. Filtration As with conventional filtration systems, filtration is conducted by down flow with pressure.



Backwashing is first conducted for a short period of time to fluidize filter media, and then SIPHON cleaning is conducted



3. SIPHON washing

Filter media is washed by kneading with the upward force that pushes water and filter media up from the lower part to the upper part by the rotation of the screw and the downward force generated by gravity

Aaste valer Washing water

4. Backwashing

After SIPHON washing, backwashing is conducted to drain away washing water. Sludge is completely exfoliated from filter media to which SIPHON washing was applied, so sludge can be easily rinsed.

High Performance Filter Media





Conventional DMF Zebra Layer with Interceptor

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Movable filtration device "Mobile SIPHON TANK" SIPHON TANK

Mobile SIPHON TANK is unitized movable water treatment device install filtration tank, piping unit, washing cartridge, chemical dosing device and control panel.

- Orinking water supply for small and midsize waterworks facilities
- **Ø** Disaster recovery
- **O** Turbidity treatment at construction site
- Around 3 days from install to water supply





Installed MST by disaster-relief and continuously using as WTP



Drinking water supply at disaster



Transportation by truck



Truck mounted type MST



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Our proposing model of New Water Supply for Small & Medium scale Waterworks With Mobile SIPHON TANK (MST)



- Disaster Recovery 2018 in JAPAN and New Water Supply Model



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Record of disaster recovery in LAOS 2013



Tempest hit the south of Lao People's Democratic Republic from September 18 to 24, 2013 and caused flooding damage to Saravahn Province. Truck mounted type water treatment unit "Mobile SIPHON TANK", deployed at Sekong Province, was sent to affected area for support water supply. Drinking water was supplied for 10,573 households (67579 people) there from September 22 to 29, 2013. Also Oudomxay Province, northen part was damaged by flood in August 2013. "Mobile SIPHON TANK" stationed at Luang Prabang Province was sent to affected area and supplied drinking water for 1,529 households (8,741 people) there.





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Record of disaster recovery in Philippines 2013

Huge typhoon "Yolanda" hit central Philippine on November 8th, 2013 and caused tremendous damage to Leyte island and its surroundings. Japan International Corporation Agency (JICA) requested NIHON GENRYO to support area affected by disaster. NIHON GENRYO dispatched 7 peoples to "Daanbantayan" from December 19 to 30, 2013 and supplied drinking water with water treatment device "Mobile SIPHON TANK" as requested by JICA. Drinking water was supplied for 4,000 households (20,000 people) there from December 28th, 2013, which is only 3 days after installation.





Raw water



Treated water



Only 3 days after starting installation

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Record of disaster recovery in Japan 2018





Dispatched Water Rescue Team immediately after destroyed Water Purification Plant by Torrential rain at Western Japan in 2018. July,2018 torrential rain hit entire West Japan. It caused tremendous damaged to the lifeline. NIHON GENRYO WATER RESCUE team was sent to Uwajima-city as requested by government and the municipality. Seven units of Movable water treatment device, Mobile SIPHON TANK, were delivered there with Japanese self-defence forces support. These provided the water for total volume of 4,100 m3 per day and supplied it to 6,500 households, which means 15,000 people.











Start water supply 4,100 m3/day in just 15 days after installation



MST is a Small Water Purification Plant

Remote monitoring is option

Solution Solution States Sol **Respond to population trend due to integral unit combination >> Flex-response Solution** Easy construction without heavy construction >> Save Cost & Construction term **Solution and maintenance** >> No Filter Media Change & Save BW water Set-up & Quick response

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Thank you very much





Please contact Momoko NAGATA (Ms.)

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Challenge through Water, for future, for human life

