

Movable Type

Automatic Slide Lance

Hose Reel Type

Manual Slide Lance

Automatic Hose Feed Lance

Movable Type High-Pressure Water Cleaning Equipment for the Inside of Tanks

Automatic control of lance transportation and washing.

"Automatic Slide Lance" automatically controls lance transportation and reactor washing. Operation can be performed with the a push of a button. It is excellent in safety and workability, and provides significant labor-saving. The "Automatic Slide Lance" has four types - suspension moving, floor moving, hoist, and manual transport types - depending on the transportation method.

Suspension Moving Type



Floor Rotation Type



Application Examples

- Polymerization tank
- Reactor tank
- Fermentation tank, etc.

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Stationary-Type High-Pressure Water Cleaning Equipment for the Inside of Tanks

A targeted washing unit for inner tank surfaces.

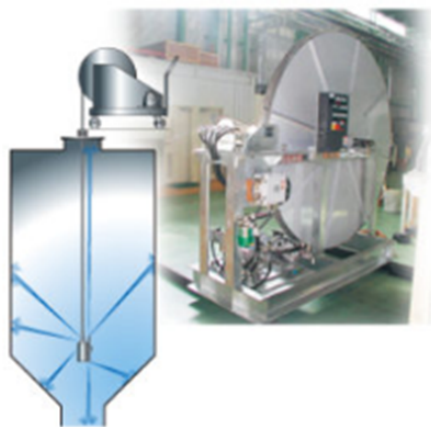
The "Hose Reel-type Cleaning Equipment" is used for factories where there are ceiling height restrictions and various tanks which require a long cleaning stroke.

Due to its light, compact design, it can be moved easily and operation is simple even for narrow floors.

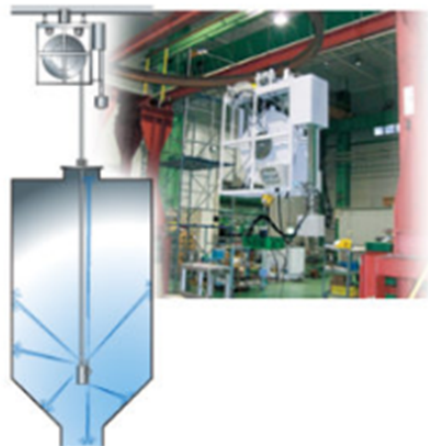
Based on differences in the type of hose elevation drive, two types of motor drives—an electric motor drive and an air motor drive—are available.

Repeated elevation cleaning and point cleaning are also possible.

Floor Moving Type



Suspended Running Type



Application Examples

- Fermentation tanks
- Storage tank
- Spray drier
- Large diameter chimney
- Silo

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Manual Slide Lance: Movable Type Manual High-Pressure Water Cleaning Equipment for the Inside of Tanks

A lance that can be operated by hand.

"Manual Slide Lance" is an affordable washing unit that can be operated manually by an operator. It can be easily transported to a reactor by a conveying truck.

Application Examples

- Polymerization tank
- Reactor tank
- Cyclone
- Fermentation tank
- Container tank, etc.



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Automatic Hose Feed Lance

Movable Type High-Pressure Water Cleaning Equipment for the Inside of Tanks

An ideal lance for washing long tanks and complex-shaped stirring blades.

The Automatic Hose Feed Lance is a washing lance that vertically lowers the 3D nozzle from the tank top. It is effective for complex-shaped stirring blades and tanks with a long straight body, and it performs fully automatic washing of the inside of the tank. There are two types - suspension and hoist - due to a difference in transportation method.

Application Examples

- Polymerization tank
- Reactor tank, etc.



Stationary Type

Jet Lancer

Narrow Lance

Compact Lance

Mono Feed Lance

Jet Nozzle

Stationary High-Pressure Water Cleaning Equipment for the Inside of Tanks

Makes small, compact and highly accurate cleaning possible!

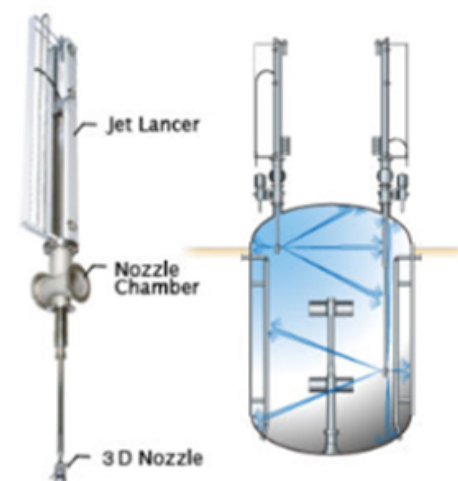
The "Jet Lancer" is a cleaning equipment in which the overall height of the compact lance is lowered by adopting a multilevel screw format in the lance lifting mechanism.

Features

- **Small and compact** By lowering the overall height of the cleaning equipment, it can easily be housed in an existing reactor with limited ceiling height.
- **Precision cleaning is possible** As the cleaning point can be installed in any desired location, it makes more precise and accurate cleaning possible in a shorter time. At the same time, this helps to save water used for cleaning.
- **Can be attached to 6B small manholes** By fixing original Sugino cleaning attachments, it can also be installed in the reactor of 6B small manholes.

Specifications

Model number	Pressure MPa	Flow rate L/min	Elevating stroke mm	Elevating speed m/min	Dimensions mm	Weight kg
JTL-1955WL	45	50 - 200	5,500	1.5	W 200 × D 350 × H 4,000	500



Note: Other jet lancers with specifications not mentioned above are also available. Please contact the nearest Sugino sales office.

Application Examples

- Polymer tank
- Reaction tank
- Various other types of tanks etc.

Stationary Type

Jet Lancer

Narrow Lance

Compact Lance

Mono Feed Lance

Jet Nozzle

Stationary-Type High-Pressure Water Cleaning Equipment for the Inside of Tanks

A targeted washing unit for inner tank surfaces.

"Narrow Lance" is a washing unit that can target the inside of a tank with precision.

Not only can it perform overall high-speed washing, but it can also be used to focus washing on a section with adhering polymers such as a gas-liquid interface or baffles.

In addition, it can reduce washing time and save water. A washing program can be easily created with the GUI to enable washing that meets your needs.

Application Examples

- Polymer tank
- Reaction tank
- Various other types of tanks etc



Stationary Type

Jet Lancer

Narrow Lance

Compact Lance

Mono Feed Lance

Jet Nozzle

Stationary High-Pressure Water Cleaning Equipment for the Inside of Tanks

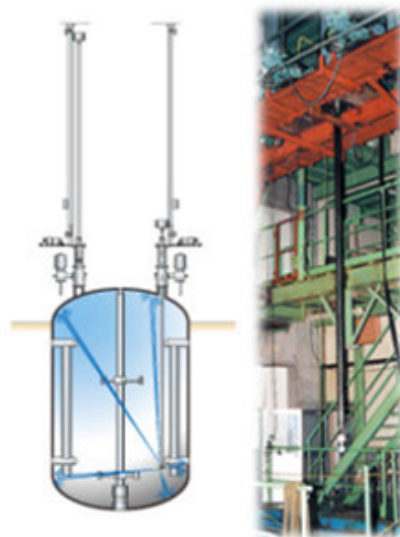
Lance with a simple and compact structure.

The "Compact Lance" is cleaning equipment with a simple structure that combines a long lance and 3D nozzle.

It is capable of cleaning a wide range of tanks from small to extra-large sizes. Using the lance with a gate valve creates a fully-automatic closed system.

Application Examples

- Polymerization tanks
- Reactors
- Storage tanks, etc.



Stationary Type

Jet Lancer

Narrow Lance

Compact Lance

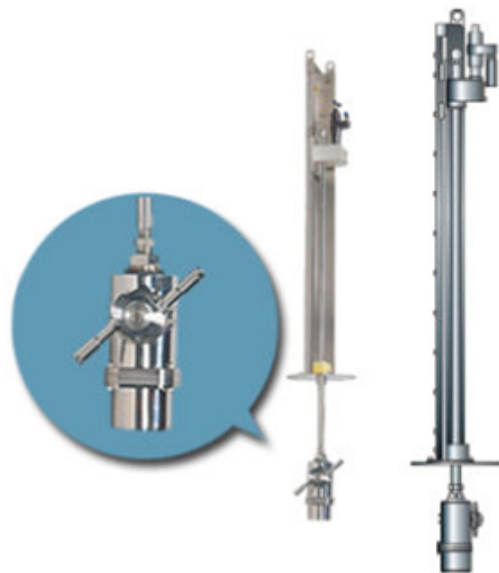
Mono Feed Lance

Jet Nozzle

Stationary High-Pressure Water Cleaning Equipment for the Inside of Small Tanks

Light and compact cleaning equipment.

The "Mono Feed Lance" is suitable for cleaning small tanks such as storage tanks and containers, with a 3D nozzle attached to the lance tip.



Stationary Type

Jet Lancer

Narrow Lance

Compact Lance

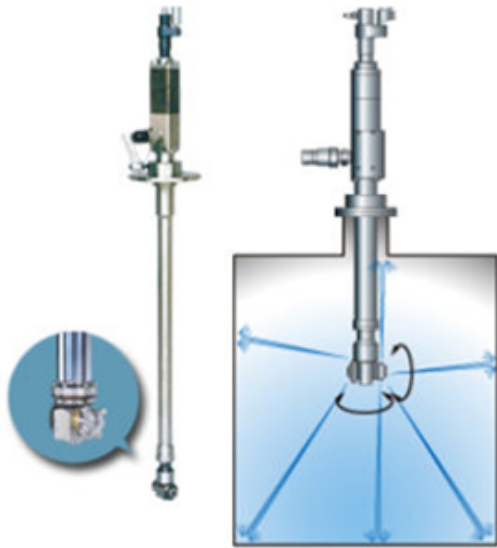
Mono Feed Lance

Jet Nozzle

Stationary High-Pressure Water Cleaning Equipment for the Inside of Small Tanks

A compact washing unit for washing small tanks and containers.

"Jet Nozzle" is a washing unit for small tanks and containers. The nozzle rotation diameter is small at 95 mm and it is lightweight at 20 kg. A high-performance air motor is used for nozzle rotation. Uniform rotation ensures even washing, and the rotation speed can be easily adjusted.



Application Examples

- Various small 1m³ tanks, etc.

Special Application Cleaning Equipment

Container Cleaning Equipment

5-Axis Robot Cleaning Equipment

Stationary High-Pressure Water Cleaning Equipment for the Inside of Containers

Total cleaning of the inside of containers.

The "Container Cleaning Equipment" is a device that completely cleans the inside of a container by mounting a 3D nozzle in the center of the container.

Automatic cleaning is possible by setting the container in a fixed position.



Special Application Cleaning Equipment

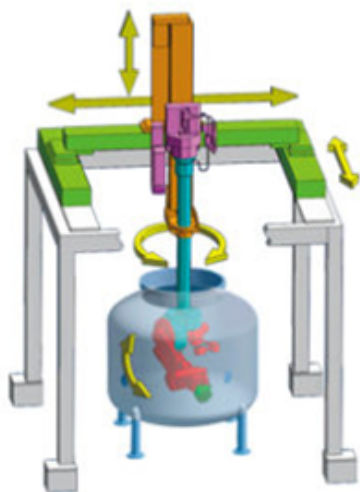
Container Cleaning Equipment

5-Axis Robot Cleaning Equipment

5-Axis Control, High-Pressure Water Cleaning Equipment for the Inside of Tanks

Clean the inside of tanks utilizing 5-axis control.

The "5-Axis Robot Cleaning Equipment" is a device that completely cleans the inside of a tank through the use of a 5-axis control mechanism and rotary jet gun.



Application Examples

- Various types of small tanks
- Chemical solution tanks (pharmaceuticals and cosmetics)
- Storage tanks
- Container tanks, etc.

High Pressure Water Cleaning Unit

3D Nozzle Automatic

Automatic Rotating/Revolving, High-Pressure Water Cleaning Nozzle Unit for the Inside of Tanks

Rotating/revolving precision cleaning nozzle!

The "3D Nozzle" is a self-rotating nozzle unit used for cleaning polymerization tanks, reactors, spray dryers, and various other tanks.

The cleaning nozzle rotates and revolves due to the reactive force of the high-pressure water spray, thoroughly cleaning the inside of tanks.

Features

1. Uniform cleaning

When compared to conventional methods of cleaning, the precision of the 3D Nozzle is about twice as accurate, making high-quality and clean washing possible. The rotation of the nozzle is controlled by a magnetic braking mechanism.

This provides the nozzle with an even rotation speed and enables stable cleaning since it is not influenced by atmospheric temperature or clogging.

2. Improved cleaning

An improved convergence of high-pressure water is achieved by utilizing a special nozzle uniquely developed by Sugino. This improves cleaning significantly since the loss in impact energy of the high-pressure water is minimized.



Specifications

Model number	Pressure	Flow rate	Nozzle rotation speed	Dimensions	Connection screws	Weight
					N	
	MPa	L/min	min-1	mm	Screw size	kg
JRN-080PG	10-30	50-80	14-40 Stepless adjustment	238×92	Rc3/4	6.5
JRN-200PGS		80-200		250 × 80		7.0
JRN-200PG		80-200		248 × 102		7.0
JRN-400PG		200-400		307 × 132	Rc1 1/4	13.0
JRN-150HPG		80-150		270 × 102	Rc3/4	8.0
JRN-130HHPG	50-100	60-130	18-40 Stepless adjustment	280 × 102		10.0
JRN-100PGS	10-45	50-100		276 × 80		8.0

Note 1. The JRN-100PGS is a slim type of 3D Nozzle that can pass through tank holes of diameter 150.

2. The overall length of the nozzle (B) may change depending on cleaning factors such as the dimensions of the reactor, diameter of tank hole, etc.



The crux of the Reactor Cleaning System is the rotating/revolving precision cleaning nozzle.

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