

Fully automatic washing and drying system for instruments

ATTRACTOR

AT-IK/AT-I/AT-II



JMIC

JAPAN MEDICAL INSTRUMENTS CO.,LTD

Outline of the system

In hospitals, various kinds of medical instruments are used in large quantities each day.

Used medical instruments have to be treated properly in a hygienic manner to get ready for the next use. Such proper procedures are essential for the prevention of hospital-acquired infection.

ATTRACTOR, a "washing and drying system for instruments," cleans (rinses and washes with hot water) contaminated medical instruments, especially metal apparatus and tubes (such as corrugated tubes, masks, general suction tubes and catheters) quickly and automatically without coming into contact with the worker's hand throughout the process from Milk-tech treatment to drying.

So far, ultrasonic cleaners have been the equipment of choice to clean instruments used in the central supply room, treatment/operating room, etc.

As a general practice, however, used instruments, especially surgical apparatus contaminated with blood, are prewashed with water or immersed in a chemical solution before being subjected to automatic cleaning.

When our ATTRACTOR system is employed in your workplace for cleaning contaminated instruments coming back from each section, prewashing will no longer be required. All you have to do is just put them into the cleaning tank as they are received. They will be washed with powerful bubbles and shower jets and then dried automatically. This helps a lot in the prevention of hospital infection.



(Bubble washer AT-IK)

Features of ATTRACTOR



(Bubble washer AT-IK)

1. No need to prewash contaminated instruments (those contaminated with blood). Just select the applicable program, and the system will do the rest automatically from washing to drying. Washing can be done with bubbles (AT-IK alone) or water jets.
2. On the touch-screen, you can select applicable processes and their durations. It is very easy to operate and allows you to visually confirm the program you have selected.
3. Anesthesia tubes, bags, general suction tubes, catheters, etc. can be washed and dried by replacing the racks with special ones (optional).
4. Slippers etc. used in operating rooms or the central supply room can be washed and dried by replacing the racks with special ones (optional).

Prevention of hospital infection begins with quick and complete cleaning of used instruments...

How to operate the system

Follow the instructions on the color-screen. Just lightly touch the item you want to select, and the program will be configured as you need. It is easy to operate and allows you to visually confirm how each process is going.

Descriptions of individual processes

Prewashing

Used instruments (such as those contaminated with blood) are washed with powerful water jets.

Bubble washing (AT-IK)

Contaminated instruments, previously immersed in a cleaning solution, are vigorously washed with vibration made by jet bubbles coming from underneath and streams of water flowing out of the rotating shower heads.

Cleaning

After preparatory washing processes, a detergent is automatically injected into the tank to remove oil stains and other dirt adhering to instruments.

Chemical rinsing

A disinfectant (Sterihyde etc.) is added to the tank to provide disinfective washing. If the program has been configured to include this process, the chemical solution will be automatically injected into the tank in this process.

Hot water rinsing

Washing and rinsing are done with hot water at 93°C. Selection of this process following washing and rinsing provides more effective disinfection.

Milk-tech treatment (for lubrication)

Metal instruments, after being washed and rinsed, are treated with Milk-tech solution for rust prevention or lubrication. The solution is automatically injected into the tank.

Drying

Instruments or tubes, after being washed and rinsed, are dried.

How to program processes from washing to drying

Depending on the degree of contamination, you can select required processes and set their durations on the "setting screen." Hot water temperature and drying time are also configurable.



(AT-I)



(AT-I)

■ Milk-tech recovery unit (optional)

Milk-tech solution used in the Milk-tech process is drained outside the system after the process is completed. When equipped with the Milk-tech recovery unit, however, the system can recover about 80% of the used solution to the Milk-tech tank for reuse and thus significantly reduce the running cost. Although the Milk-tech recovery unit is optional, we strongly recommend you take this option into consideration if you are considering purchasing the ATTRACTOR system.

■ Special racks (optional)

< Racks for tubes >

Racks for tubes are specifically designed to hold anesthesia tubes, bags, suction tubes and catheters, and other items such as masks and brushes, while they are washed and dried.



< Racks for slippers >

Racks for slippers are mainly designed to hold slippers while they are washed and dried. However, the holders in the rack can also serve to hold various kinds of instruments, such as kidney dishes, vats, and basins.



(AT-II)

■ Trouble alarms allows you to work without worries

If a trouble occurs during a process, the system displays the most likely cause of the trouble on the touch-screen. This allows you to take a prompt action to solve the problem.

(The system comes with alarms for six types of problems, such as lack of detergents, lack of chemicals, lack of water, and clogged drain, and thus allows you to work without worries.)

洗剤が入っていません

アラームOFF

- 1 洗剤を投入して下さい
- 2 薬液投入後セットSWを押して下さい

セットSW

■ Capacity of special racks per run

	ATTRACTOR IK	ATTRACTOR I	ATTRACTOR II
Anesthesia corrugated tube	13	9	713
Anesthesia bag	8	8	4
General tube catheter	30	30	20
Slippers	28	28	10
Basket for instruments		4	3
Dimensions in mm	W470 x L560 x D70	W380 x L500 x D70	W310 x L390 x D105

Outline of the system

The ATTRACTOR system can be assembled as a stationary, wall-embedded, or pass-through (two-door) type to suit where you want it to be installed. You might want to take into consideration the processing capacity you need and how much room you have for installation.

The door of ATTRACTOR I opens and closes sideways with hinges, thus saving space in the front. Racks are taken in and out with a special hand truck.

The door of ATTRACTOR IK and II opens downward and closes upward. Racks are taken in and out using this door as a ramp.

< Standard accessories >

1. ATTRACTOR I (AT-I)

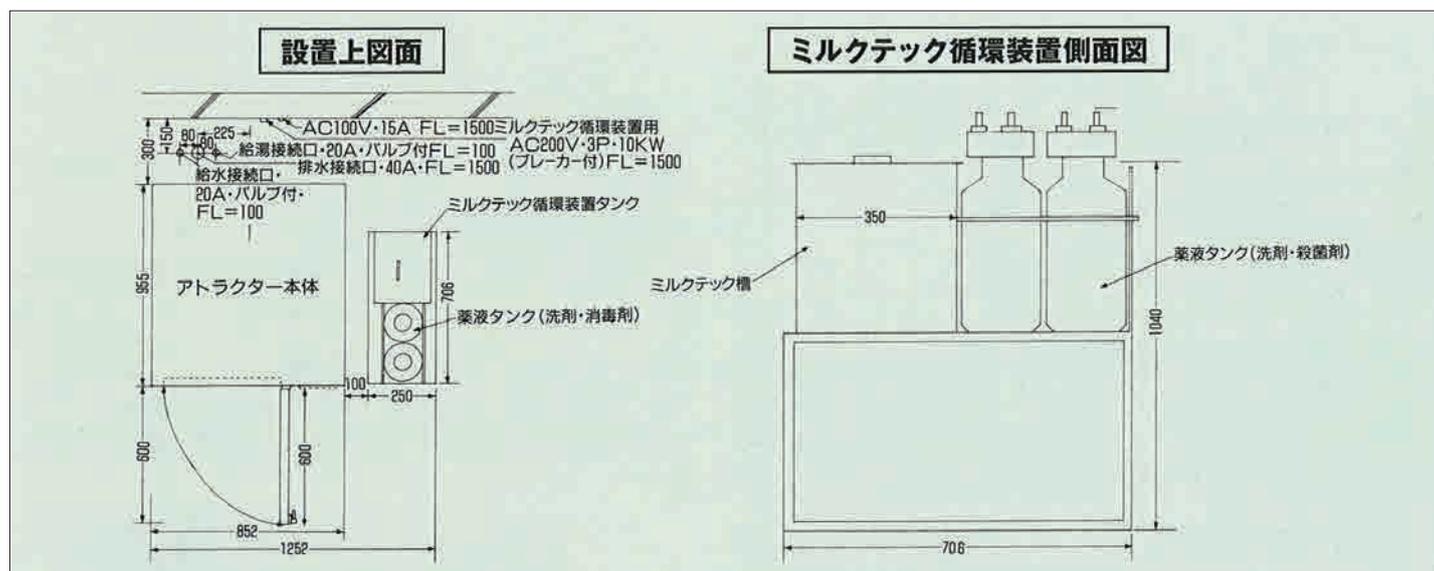
- Rack for instruments 1 set
- Basket 4
- Cart for various detergents 1 set
- Hand truck for racks 1
- Detergent (4L) 1

2. ATTRACTOR IK (AT-1K) II (AT-II)

- Rack for instruments 1 set
- Basket 3
- Cart for various detergents 1 set
- Detergent (4 L) 1

3. ATTRACTOR I (AT-I)

- Milk-tech recovery unit
- Rack for tubes
- Rack for slippers
- Other special racks



	ATTRACTOR IK	ATTRACTOR I	ATTRACTOR II
Outer dimensions	W1,000 × D900 × H1,780 mm	W853 × D955 × H1,780 mm	W710 × D803 × H1,655 mm
Power source	AC 200 V, 3-phase, 10 kW	AC 200 V, 3-phase, 10 kW	AC 200 V, 3-phase, 10 kW
Pipework	Hot water supply: 20 A; Water supply: 20 A; Drainage: 40 A	Hot water supply: 20 A; Water supply: 20 A; Drainage: 40 A	Hot water supply: 15 A; Water supply: 15 A; Drainage: 15 A
Inner dimensions of washing chamber	W550 × D640 × H600 mm (effective)	W490 × D600 × H600 mm (effective)	W400 × D510 × H570 mm (effective)
Water storage chamber of the washing tank	50L - 240 L (for bubble washing)	30 L	20 L
Hot water tank dimensions	W400 × D400 × H260 mm	W400 × 400 × H1260 mm	W480 × D200 × H290 mm
Heater in the hot water tank	AC 200 V, 3-phase, 6 kW	AC 200 V, 3-phase, 6 kW	AC 200 V, 3-phase, 6 kW
Heater in the tank	AC 200 V, 3-phase, 6 kW	AC 200 V, 3-phase, 6 kW	AC 200 V, 3-phase, 5 kW
Washing circulation pump	- For upper and lower showers AC 200 V, 3-phase, 1.5 kW; Capacity: 140 L/min - For middle shower AC 200 V, 3-phase, 1.5 kW; Capacity: 180 L/min	- For upper and lower showers AC 200 V, 3-phase, 1.5 kW; Capacity: 140 L/min - For middle shower AC 200 V, 3-phase, 1.5 kW; Capacity: 180 L/min	- For upper and lower showers AC 200 V, 3-phase, 0.4 kW; Capacity: 100 L/min - For middle shower AC 200 V, 3-phase, 0.4 kW; Capacity: 100 L/min
Hot water supply pump	AC 200 V, 3-phase, 0.2 kW; Capacity: 50 L/min	AC 200 V, 3-phase, 0.2 kW; Capacity: 50 L/min	
Heater box for drying	- Heater: AC 200 V, 3-phase, 8 kW - Heating blower: AC 200 V, 3-phase, 0.5 kW	- Heater: AC 200 V, 3-phase, 8 kW - Heating blower: AC 200 V, 3-phase, 0.5 kW	- Heater: AC 200 V, 3-phase, 4.5 kW - Heating blower: AC 200 V, 3-phase, 0.3 kW
Injection pump for detergents/chemicals	AC 100 V, 20 W	AC 100 V, 20 W	AC 100 V, 20 W
Plastic container for chemicals	5 L × 2	5 L × 2	5 L × 2



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