

Fully autoclavable!!**You can use repetitively even after autoclaved sterilization.**Product name: **DIA SPRAY** Autoclavable Spray Bottle (professional-use)Model: **NO.885** Capacity: **500 mL** (Applied for International Patent)**User instruction**

Make sure to read this instruction before use.

Keep this instruction carefully so as to be ready for use when needed.

Safety precaution**⚠ Caution**

- Carry out sterilization properly in accordance with the user instruction for an autoclaved sterilizer.
- Use chemical liquid properly in accordance with the user instruction for each liquid.
- Do not use scalding hot water although hot water can be sprayed.
- Do not sterilize a spray bottle containing chemical liquid.
- Do not place a spray by the fire or heat it in a microwave. It might cause softening and distortion, and impair its function.
- Do not leave a spray containing chemical liquid in sun light or around heat source equipment such as a heater. Chemical liquid might flow out from a nozzle by air expansion in a bottle.
- A spray bottle is very hot just after autoclaved sterilization. Cool down well before use.
- Do not store or carry a spray bottle containing liquid in a flat position. Liquid might structurally leak from an inlet in a cylinder. (Refer to an illustration of the piston structure in page 2.)
- Wipe a spray bottle with a dry cloth after use and keep it empty when storing.
- Keep away from children when storing.

Available chemicals we tested

- Ethanol for disinfection
- Benzalkonium chloride 0.2% solution (positive surfactant)
- Alkyldiaminoethylglycine hydrochloride 0.2% solution (amphoteric surfactant)
- Chlorhexidine gluconate 0.05% solution
- Acrinol 0.2% solution
- Iodine-based disinfectant
- Water or hot water (Do not use scalding hot water.)
- Other neutral chemicals (An organic solvent is not available although it is neutral.)

Unavailable chemicals we tested

- Isopropyl alcohol for disinfection
- Cresol
- Oxydol
- Sodium hypochlorite solution
- Aldehyde-based disinfectant
- Organic solvent
- Viscous liquid

“Caution” indicates possibilities of injury or property damage in case of disobedience to the instructions.

*The instruction contents and the product specifications might change without notice.

*All of the spray bottles are carried out inspections of spraying. Please note that water for the inspections might be remained in the bottles.

Application

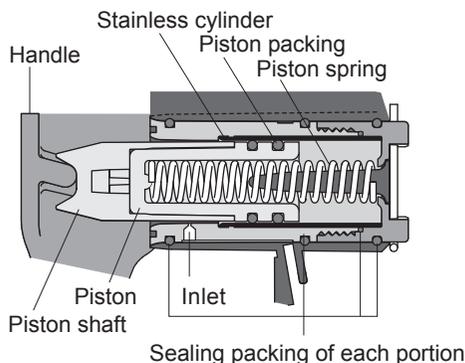
- Spraying each chemical after autoclaved sterilization of an entire spray bottle. Repetitive autoclaved sterilization is possible even after spraying.

※ Refer to “Available chemicals we tested” in page 1.

Part names and characteristics

- This spray is composed of heat resistant parts and usable for autoclaved sterilization. Especially a cylinder portion is made with our independently developed piston structure which is excellent in heat resistance and durability, and it is economical as it can be used for a long time. Also, each sealing portion is made with high-quality heat resistant packing.
- Fine mist can be sprayed with light handling. The spray is designed so as to fit to hands.
- A movable hose enables spraying in various angles without leaving liquid in a bottle.
- The spray angle can be adjusted by turning a nozzle.

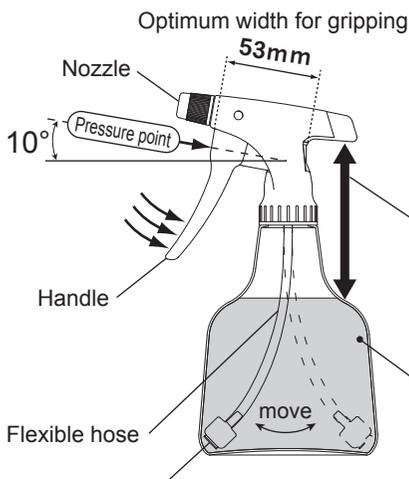
Our independently developed special piston structure which is excellent in heat-resistance and durability



- **High-precision stainless cylinder**
A high-precision stainless cylinder is used to prevent distortion by heat
- **Piston & piston shaft**
A heat resistant resin is used.
- **Piston packing**
A durable piston packing which moves lightly and made with heat and abrasion resistant high quality material.
- **Sealing packing of each portion**
Sealing packing of each portion is also made with heat resistant high quality material and excellent in durability.

● 10° upward cylinder

- Many fingers come below a pressure point (application point of pressure of the piston), and it enables spraying with less force by effectively using the principle of leverage.



● Compact and optimum design for gripping

- A back space of the spray bottle fits to hands and enables handling without jiggling.

● Nozzle stopper function is equipped.

Close for rocking.



Half-turn from lock for mist.



Turn more for Jet.



A heat-resistant bottle is usable for autoclaved sterilization.

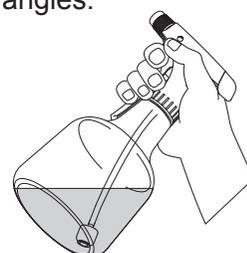
● Weight with a filter

- A weight contacts to a bottle corner and enables spraying liquid without remaining.
- A filter prevents sucking up dirt.
- A weight arranged at the end of a hose is independently designed by us and metal is completely adhered in a resin, and therefore liquid is not affected.



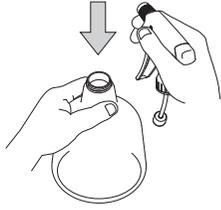
● Flexible hose

- A hose moves so as to spray in various angles.

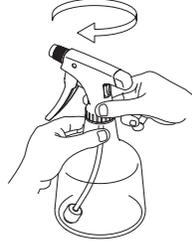


How to use

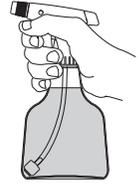
1. Put chemical liquid in a bottle after taking off a spray.



2. Close the spray firmly to the bottle.



3. Firmly grip with four fingers when spraying.



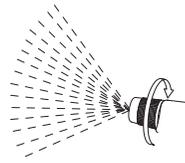
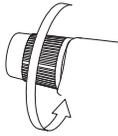
4. Adjust the angle of mist by turning a nozzle.

- A nozzle stopper is attached.

Close for rocking.

Half-turn from rock for mist.

Turn more for direct shot.

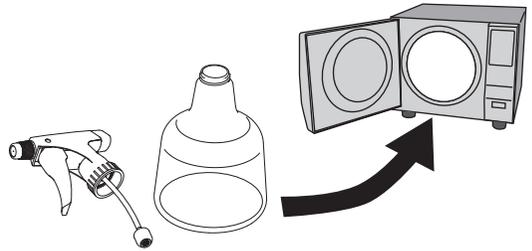


Method for autoclaved sterilization

- Make sure to read and follow the user instruction for an autoclaved sterilizer.

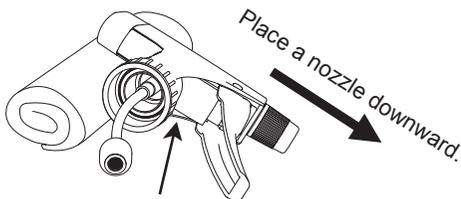
- Set to an autoclaved sterilizer after disconnecting a bottle and a spray.

- ※ Peel off a label on a bottle before sterilization.



A spray bottle is very hot just after autoclaved sterilization. Cool down well before use. Especially a resin of the bottle is softening and might be distorted if you touch. Do not put pressure on the bottle until sufficiently cooling down.

- If water is remained in the back of a handle and a cylinder after sterilization, you can prevent it by placing the nozzle side downward by using an appropriate base.



※ Water might remain in the back.

- Do not sterilize a bottle containing chemical liquid. When you sterilize chemical liquid or water, follow the user instructions for an autoclaved sterilizer.



If water is still remained in spite of the above, please dry again.

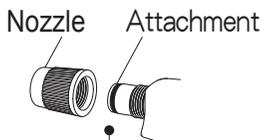
Care after use

After use, dry a spray and a bottle well and store in a cool place avoiding direct sunlight (UV rays).(Do not store in sunlight such as by a window.)

Failure case

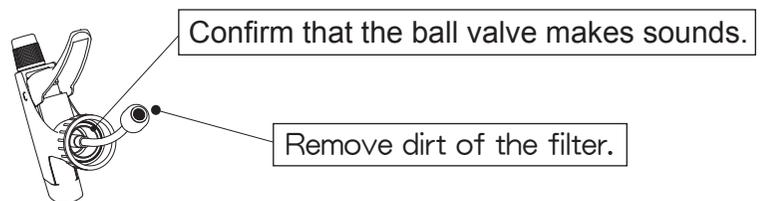
Phenomenon	Cause	Solution
Mist is curving.	A nozzle is clogging.	Take off a nozzle and remove dirt of a nozzle hole or attachment from the inside without hurting using a soft material pick. (Refer to Figure 1.)
You cannot spray.	A filter is clogging.	Take off a spray from a bottle, and remove dirt of a filter. (Refer to Figure 2.)
	A ball valve is sticking.	Take off a spray from a bottle, and turn down and hit the spray several times until the ball is unstuck. (Refer to Figure 2.) (The spray makes clattery sounds when you shake it.)

(Figure 1)



Remove dirt from the inside.

(Figure 2)



Cautions for long-term use

Although this spray has sufficient heat resistance and durability, autoclaved sterilization is carried out under severe conditions, and by long-term use or excessive frequent use, the spray might malfunction such as leak from a piston by deterioration or abrasion of plastic parts. In such case, it is a time to replace the spray. Please buy a new one.

FURUPLA CO.,LTD.

3-11-6, Taito, Taito-ku, Tokyo 110-0016