



“Sturdy” Autoclave Sterilizer

SA-300VF

Instruction Manual

Please read manual carefully before using and keep it well.



OPERATION INSTRUCTION

SA-300VF

FALCON –SERIES

AUTOMATIC AUTOCLAVE STERILIZER

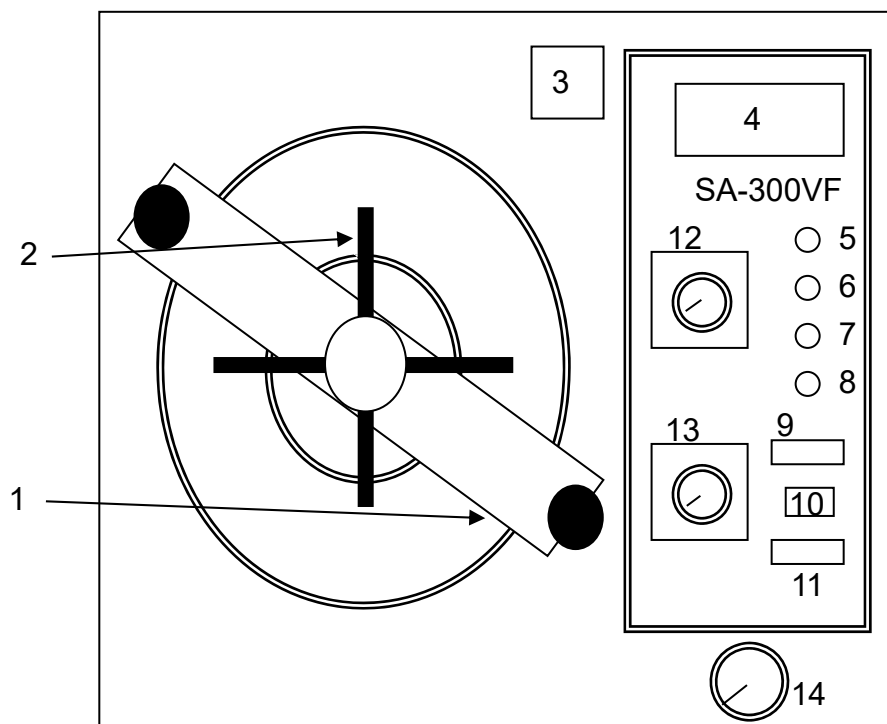
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Please read this manual carefully prior to using your new Falcon Autoclaves. Following
The simple instructions contained in this manual will help ensure ease of use,
trouble free operation, and a longer working life for your Falcon Autoclave.

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CHAPTER 1 LOCATION

1. DOOR CLOSED SCREW RING
2. DOOR HANDLE
3. ADJUSTABLE TEMPERATURE CONTROL
4. COVER
5. POWER LAMP (INDICATOR)
6. HEATING & STERILIZATION LAMP (INDICATOR)
7. DRY LAMP (INDICATOR)
8. COMPLETE LAMP (INDICATOR)
9. EMERGENCY EXHAUST SWITCH
10. START SWITCH
11. POWER SWITCH
12. STERILIZATION TIMER
13. DRY TIMER
14. PRESSURE / TEMPERATURE GAUGE



CHAPTER 2 SPECIFICATION

CHAMBER SIZE (mm)	300Ø X 710 (DEPTH)
CHAMBER CAPACITY (L)	50 L
OVERALL SIZE (mm)	450 (D) X 600 (W) X1090 (H)
POWER CONSUMPTION	230VAC / 3100 W / 13.5A
DESIGN TEMPERATURE	140 °C
SAFETY DEVICE	PRESSURE SAFETY VALVE
	TEMPERATURE PROTECTION SWITCHES.
	PRESSURE CONTROL SWITCH.
	DOUBLE STEAM TRAP. MAKE PERFECT STERILIZATION.
	EMERGENCY EXHAUST SWITCH.
	OVERHEATED ALARM
WORKING ENVIRONMENT	INDOOR USE ONLY;
	ALTITUDE LESS THAN 1,000 M;
	AMBIENT TEMPERATURE BETWEEN 5°C AND 40°C;
	HUMIDITY : 80% RH@31 °C NON-CONDENSING TO 50% RH@40°C;
	VOLTAGE FLUCTUATIONS UP TO ±10 %;
	TRANSIENT OVERVOLTAGE CATEGORY II;
	POLLUTION DEGREE 2
TRANSPORTATION CONDITIONS	-10°C TO 70°C, 10%RH TO 90%RH
STORAGE CONDITIONS	-10°C TO 50 °C, 10%RH TO 70%RH
LIFE TIME	7 YEARS
STANDARD ACCESSORIES	STAINLESS #304 BASKET X 2 pcs
	2000cc BOTTLE X 1 pcs.
	Clip X 1pc.
	HEATERS COVER X 1 pcs
	EXHAUST HOSE X 2 pcs
	SIZE OF BASKET: 250Ø(Dia) X 251 (DEPTH) (mm)
SAFETY APPROVAL	CE ₀₄₃₄ / MDD APPROVED BY DNV

CHAPTER 3 PREPARATION AND INSTALLATION

CHECKLIST BEFORE USE THIS AUTOCLAVE

1. Put this autoclave on the level floor, and keep the distance more than 5cm between the wall and the case. And keep this autoclave in level condition.

PS: KEEP THE FAN OPENING FREE.

2. Check the elec. power source must be 220v~240v.

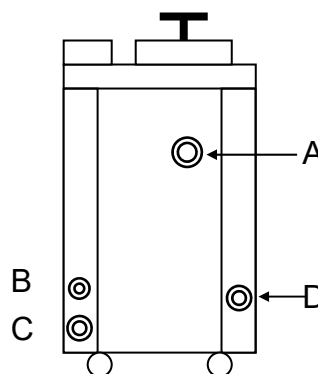
3. You are now, ready to take the power cord out, and connect the wire to **1 Ø, 20 Amps. No Fuse Breaker.**

PS: SA-300VF WITHOUT FUSE INSERT, SO THE NO-FUSE-BREAKER IS NECESSARY FOR SECURITY. <<VERY IMPORTANT>>

4. Pouring about 3000cc water (**DISTILLED WATER ONLY**) into the chamber, (As our enclosed one and half of bottle water.)

5. Install the exhaust hose: One end to be fixed on the pipe connector "D" and another end should be brought into the public net.

- A. Steam exhausts hose from safety relief valve.
- B. Power cord.
- C. Water Filter
- D. Pressure / water exhaust connector.



REAR VIEW



Waste water should be brought into the public net in accordance with the local rules or requirements i.e

6. Push the power switch-on, if it is light on, that means the power is already stand-by now.
7. If you can complete above preparation, she'll be more safety and she'll be your vest partner.

CHAPTER 4 OPERATION

※ PLEASE CHECK CHAPTER 3 AT FIRST

1. Open the door and pour the water into with enclosed bottle (One and half of bottle about 3000cc for one cycle use). Then put in sterilization instruments in the basket. (All the sterilized instruments must be put-in the basket for sterilization. If you don't use basket, the instruments will easy to be burned down.)

P.S.: PLEASE DON'T FORGET TO PUT THE STERILIZATION INDICATORS INTO CHAMBER.

Place the baskets into the chamber is as following :Figure 4-1

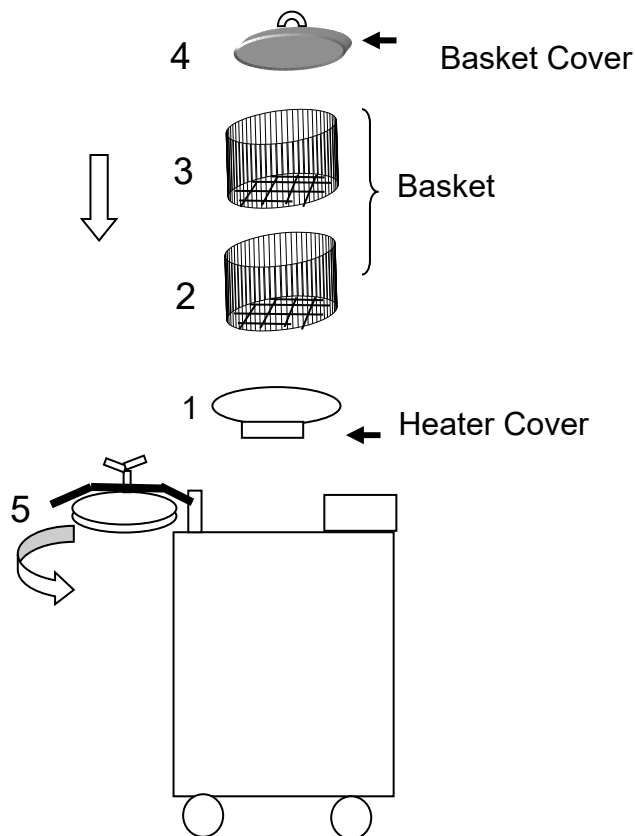


Figure 4-1

2. Closed the door and turn the door handle tight ◦
3. Set up the programs as you want (Push on the power switch at first.)
 - a. Set-up the temperature 121°C or 134 °C.
 - b. Set-up the sterilization time.
 - c. Set-up the dry time. Then the program is starting working when press "START" switch.
4. After the chamber temperature up to the temperature you set-up. The LED of

sterilization timer turn “flash” that means the sterilization timer starts work. The LED turns ON when the LED stop to flash. That means the sterilization timers finished working and starts to dry timer.

5. The LED of dry timer turn “flash” when dry timer starts working. The LED turns ON when the LED stop to flash. That means the dry timers finished working and start to buzzer.
6. This autoclave will alarm you, when she finishing work. And please check the pressure/ temperature gauge must be returned at “zero” position. Then, you can turn open the door.

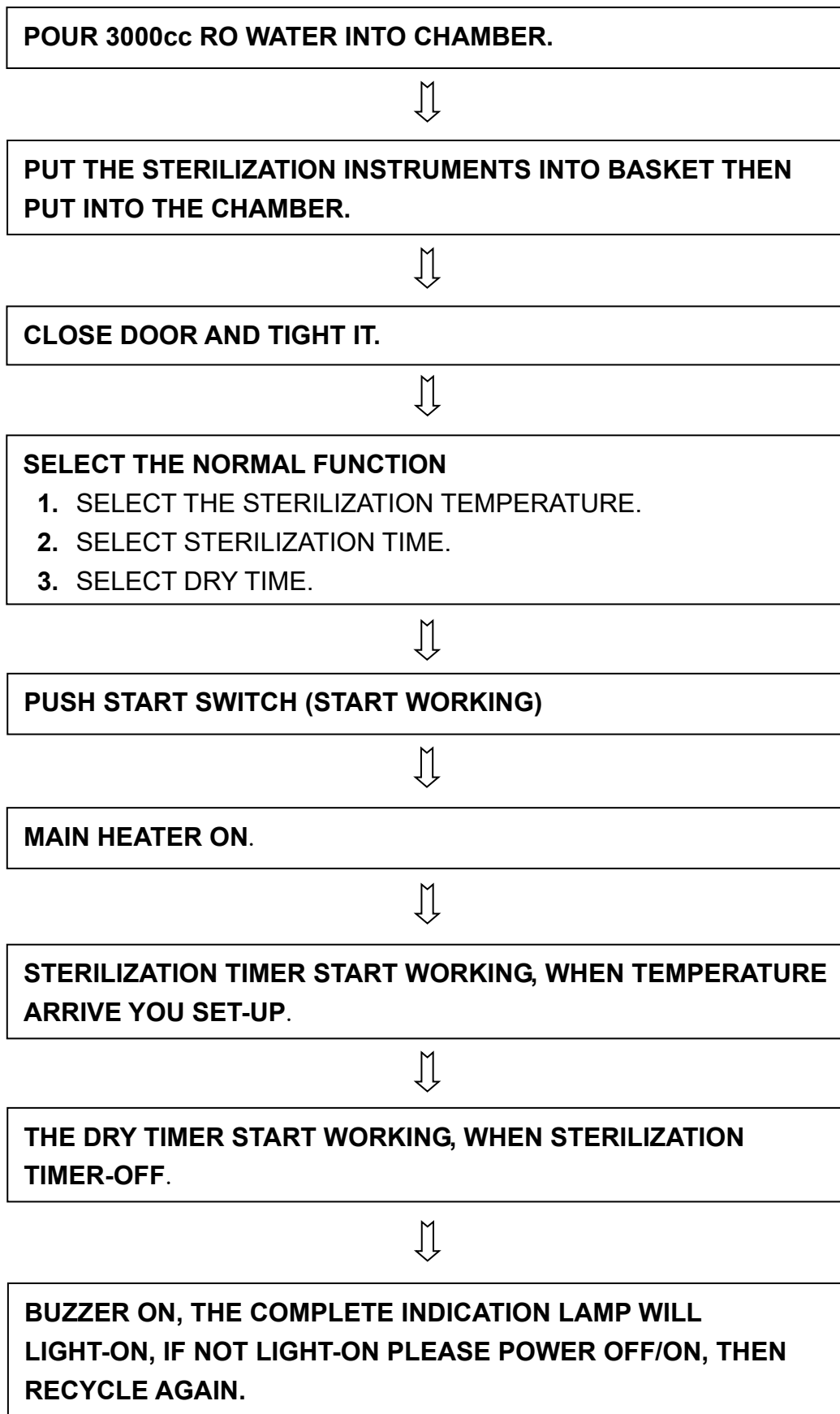
PS 1. After you finish each cycle please don't forget to check the sterilization indicator.

PS 2. When the chamber temperature is cooling down, the chamber will be in vacuum condition. Please press EMERGENCE exhaust valve until the pressure gauge going down to 0 bar(Kgf/cm²). Then the vacuum will be release. And you can open the door smoothly.

PS 3. To use the unit continuously, be absolutely sure to open the door and allow the unit to cool off for at least 20 minutes.

PS 4. You need do next run. Please turn OFF / ON the power switch to reset system.

CHAPTER 4 BASE STEP OF STERILIZATION

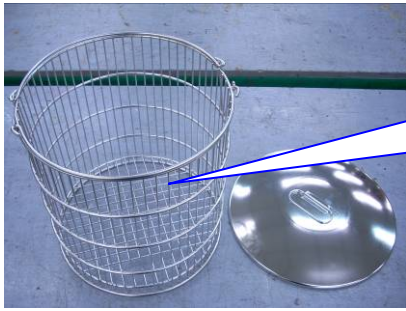


1. THE DOOR CAN'T OPEN, IF CHAMBER IN VACUUM CONDITION. PLEASE PUSH THE "EMERGENCY SWITCH" TO RELEASE CHAMBER VACUUM.
2. AFTER THE CHAMBER VACUUM WAS RELEASED, THEN THE DOOR CAN BE OPENED.

CAUTION

1. CHECK THE PRESSURE GAUGE RETURN TO "ZERO" POSITION, BEFORE THE DOOR OPENED.
2. YOU NEED DO THE NEXT RUN. PLEASE TURN OFF/ON THE POWER SWITCH TO RESET SYSTEM AGAIN.
3. TO USE THE UNIT CONTINUOUSLY ARE ABSOLUTELY SURE TO OPEN THE DOOR AND ALLOW THE UNIT TO COOL OFF FOR AT LEAST 20 MINUTES.

CHAPTER 4 CONCERNING THE STERILIZATION ITEMS



Open the door of autoclave. Take out the baskets and basket cover from chamber.



Put the sterilization items into baskets. But the sterilization items don't over the basket.



Put baskets into the chamber. Please don't forget to put the sterilization indicators into chamber.








Put the basket cover at top basket after one or two baskets puts into chamber. Now close the door and tight door.




CHAPTER 5 WARNING

1. Anytime check the pressure gauge, if the pressure over than 0 bar(kgf/cm²). Please don't open the door.
2. **"USE ONLY DISTILLED WATER"** FOR SA-300VF. Or not, we can't offer the quality guarantee service.
3. Please don't forget pouring the water into chamber. Before sterilization. Or not. The temperature protection switch will cut –off the ele. Power. And buzzer on the same time.

PS: Please PUSH-OFF the POWER SWITCH (Location NO 11.) And pour water in the chamber with the enclosed one and half of bottle water about 3000cc. Then close door and PUSH-ON the power switch again.

4. Please attend the high temperature on the door cover when she is working.
5. The door needs turn too tight when you close the door.
6. Ensure the heater element inside the chamber is covered with water prior to commencement of the sterilization cycle.
7. Use only a dedicated power supply with 20A No-Fuse-Breaker.
8. The silicon rubber gasket on the inner door at the front of the chamber should be kept clean.
9. The filter valve inside the chamber should be cleaned at least every season.
10. We recommend use of chemical indicator strip a check for sterility result. These strips may also be kept as a record of sterilization.
11. In the event of an emergency immediately press the "EMERGENCY SWITCH" to exhaust the water and pressure.
12. Each time when you pouring water into the chamber, please use the enclosed 3000cc bottle, each time with one full bottle.

13.  Caution! Hot surface.
14.  Grounding terminal.
15. "  " Off, disconnection from the mains.
16. "  " On, connection to the mains
17.  Consult instructions for use

18.  Disposal of Electrical & Electronic Equipment (WEEE):
This product should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. For more detailed information about the recycling of this product, please contact your local city office, household waste disposal service or the retail store where you purchased this product.
19.  2008-01 Date of manufacture
It is a 6-digit number. The first 4 digits represent the year and the last 2 digits represent the month.
20.  Authorized Representative at europe.
21.  Manufacturer.

CHAPTER 6 APPENDIX

6-1 PROGRAM DETAILS AS FOLLOWS:

※ SETTING UP THE STERILIZATION TIME:

☆ **TEMPERATURE 134°C / 274°F APPROX. 2.1 bar(kgf/cm²)**

WRAPPED set-up 15 minutes sterilization time.

UNWRAPPED set-up 04 minutes sterilization time.

☆ **TEMPERATURE 121°C / 250°F APPROX. 1.2 bar(kgf/cm²)**

WRAPPED set-up 30 minutes sterilization time.

UNWRAPPED set-up 22 minutes sterilization time.

LIQUIDS set-up 40 minutes sterilization time.

DRY TIME: 30 MINUTES.

PS: Liquids sterilization need special option device. By order request.

☆ **SPECIAL SELECTION RANGE:**

TEMPERATURE SELECTION RANGE : 118°C ~ 134°C

STERILIZATION TIME SELECTION RANG : 0 ~ 60 MINUTES

DRY TIME SELECTION RANGE : 0 ~ 60 MINUTES.

FOR REFERENCE : 1 kgf/cm² = 0.98 bar = 14.2 PSI.

Sterilization instruments must be made by metal without plate. Or autoclave plastic or rubber material.

Liquids sterilization is available, but it must adjust the venting system by our engineer. So, for liquid sterilization must be noticed by you purchase order.

6-2 PACKING INSTRUCTIONS:

※ RE-PACKING INSTRUCTIONS: TO PACK AUTOCLAVE INTO CARTON (PLEASE REFER CHAPTER 1.LOCATION.)

1. Drain all water from the autoclave.
2. Remove power cord and place all items into the chamber. Close door secure filmy.
3. Cover the autoclave with the plastic bag.
4. Place the bottom of the wooden-case onto the floor.
5. Move and place the autoclave on bottom piece. And ensuring that these four castors are fixed already.
6. Place wall pieces of the wooden case to connection the bottom piece of carton, one by one.
7. Place the heavy wooden bar to fix the top of the autoclave, between each wall pieces.
8. Putting on the top cover of the wooden –case.
9. Please don't forget to write down the shipping mark and products name, model No. on the same time.

IMPORTANT:

We strongly recommend that all packing material including the carton be kept for re-use in the event that the unit needs to be transported at ant time.

CHAPTER 7 TROUBLE SHOOTING

※ **Power lamp is not light on:**

– Solution: Try to connect power supply until power indicator goes on.

1. Cause: No-Fuse-Breaker broken.

Solution: Press it back and try again.

Solution: Replace it.

2. Cause: Bulb broken

Solution: Replace it

※ **HEATING & Sterilization lamp is not light on.**

1. Cause: Lamp broken.

Solution: Replace it.

※ **Dry lamp is not light on.**

1. Cause: Lamp broken.

Solution: Replace it.

※ **Overheated Alarm: Buzzer on.**

1. Cause: Water is not enough.

Solution: Pour the water into the chamber. (Please note : Each cycle need one and half of bottle about 3000cc water into chamber.)

Solution: Whether the inspection door or the pipeline leak gas.

2. Cause: Forget pouring water into chamber

Solution: Pouring water into chamber, and try again.

※ **Water in chamber can't exhaust automatically.**

1. Cause: Steam solenoid valve is unclean.

Solution: Clean the filter.

Solution: Replace the solenoid.

※ **Pressure can't up.**

1. Cause: Steam solenoid valve unclean.

Solution: Clean the filter.

Solution: Replace the solenoid.

Solution: Replace the main heater.

※ **Dry function not perfect.**

Please open the door in 15 minutes after alarm. If it still has same problems, Please call engineer.

PS: ANY PROBLEMS PLEASE CHECK THE CONNECTION AT FIRST.

CHAPTER 8 MAINTENANCE REQUIREMENTS

DAILY:

- WIPE THE INSIDE OF THE CHAMBER AND THE INSIDE OF THE DOOR WITH NON-LINT CLOTHES SUCH A WETTED.
- ENSURES THE BASKET BE CLEANED AFTER CYCLE FINISHED.

WEEKLY:

- CLEAN THE RACK AND TRAYS.
- CLEAN THE WATER FILTER AT CENTER OF THE CHAMBER OTHER WATER FILTER AT REAR SIDE

MONTHLY:

- RELEASE THE CASTERS BREAK. AND MOVING OUT THE AUTOCLAVE AND CLEAN THE GROUND UNDER THE AUTOCLAVE.
- CLEAN THE CHAMBER AND PIPING SYSTEM WITH “**CHAM-MATE**”.

YEARLY: (CHECK BY ENGINEER)

- REMOVE, CLEAN AND REPLACE THE WIRE MESH FILTER AT DOWN SIDE OF THE CASE. THEN FIX RETURNS THE FILTER.
- CHECK THE ELECTRIC WIRE SYSTEM, FUSE AND CONNECTORS.
- CHECK THE PIPING SYSTEM AND EACH CONNECTOR.
- CLEAN THE SOLENOID VALVE.
- CHECK THE INDICATOR LAMPS AND ALL CYCLE FUNCTION.
- CHECK THE TEMPERATURE PROTECTION SWITCH.
- CHECK THE DOOR GASKET. (SUGGESTION: REPLACE IT PER YEAR.)

WARRANTY

You “**STURDY**” product are in guaranteed to be from the defects in materials and workmanship for one (1) year under normal use from the date of purpose.

This warranty does not apply to any product damaged by accident, misuse, abuse, neglect, improper line voltage, drop, fire, flood or if the products were altered or repaired by anyone other than qualified service personnel.

The liability of Sturdy Industrial Co., Ltd. is limited to repair or replacement and under no circumstances shall “**STURDY**” be liable for any collateral consequential damages or loss. This guarantee specifically excludes the expendables and consumable.

All warranty claims must be directed to the distributors or agents authorized by Sturdy Industrial Co., Ltd. Responsible for the sales of this instrument. The customers are responsible for shipping expense.

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User's Name: _____

Address: _____


Country: _____ Tel: _____ Fax: _____

Date of Purchase: _____ Model No.: _____

Series No.: _____

Distributor: _____

Manufacturer: STURDY INDUSTRIAL CO., LTD. (ISO 13485 CERTIFICATE FIRM.)

Name	Sturdy Autoclave Sterilizer		
Model	SA-300VF		
Manufacturer 	Sturdy Industrial Co. Ltd.		
Address	168, Sec. 1, Zhongxing Rd., Wugu District, New Taipei City, 24872, Taiwan		
EC Representative <table border="1" data-bbox="276 1704 368 1740"> <tr> <td>EC</td> <td>REP</td> </tr> </table>	EC	REP	APEX MEDICAL S.L. Elcano 9, 6 ^a planta 48008 Bilbao. Vizcaya SPAIN
EC	REP		

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