

### **PRESENTATION :**

---

The Falcon series adopts traditional mechanical structure design, which is not only easy to operate, durable and low maintenance cost, but also equipped with Air Pump Dry with HEPA Filter. It can greatly improve the sterilization efficiency and effect, and achieve the minimum cost and maximum profit.



### **FEATURES :**

---

- Mechanical Pressure Control System
- Graduated Sterilization & Dry Timer
- Pressure Auto Door Lock
- 0.03  $\mu\text{m}$  HEPA Air Filter
- Pressure overload protection
- Overheat protection
- Closed Door Drying

### **STANDARDS & DIRECTIVES :**

---

- \* 2014/68/EU (PED; Pressure Equipment Directive)
- \* EN/IEC 61010-1 (Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use)
- \* EN/IEC 61010-2-040 (Safety requirements for sterilizers used to treat medical materials)
- \* EN/IEC 61326-1 (EMC; Electrical equipment for measurement, control and laboratory use)
- \* ISO 13485 (Quality Management/Certification)
- \* RoHs (Restriction of Hazardous Substances Directive)

## **CHAMBER :**

---

Made of 304 stainless steel, the overall design is pressure-resistant, high-temperature resistant, and has the ability to remove a large amount of water, air and condensed steam. It has an exhaust hole that allow most of the air in the chamber to be exhausted, so that the steam can flow better and be distributed to every corner to achieve maximum sterilization effect. The chamber has a thermal insulation effect to reduce heat loss and the effect of external ambient temperature.

Designed in accordance with ASME codes & standards and complies with the PED (Pressure Equipment Directive), with a service life of up to 7 years.

SUS 316 can be selected for chamber material.

### **Chamber Volume -**

- ☐ 24 Liter (SA-252F)
- ☐ 40 Liter (SA-300H)

### **Chamber Material -**

- ☐ SUS 304 / 304 Stainless Steel (Standard)
- ☐ SUS 316 / 316 Stainless Steel (Optional)

## **CHAMBER LOAD CAPACITY :**

	SA-252F	SA-300H
Chamber Volume (L)	24	40
Chamber Size (mm)	260 x 450	300 x 570
Maximum Instrument Length (mm)	350	525
Maximum Load (unwrapped, solid) (g)	7,000	9,000
Maximum Load (wrapped) (g)	1,300	1,600

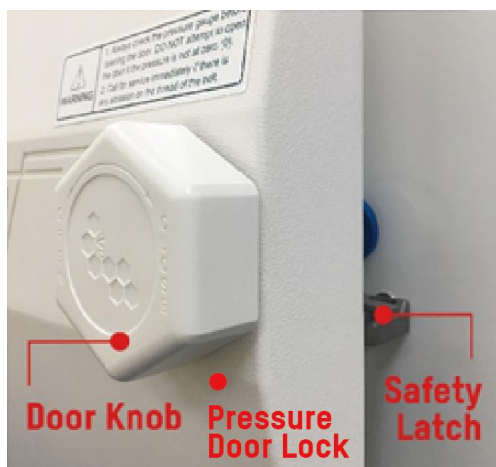
## **DOOR LOCK SYSTEM :**

The Falcon series has a pressure auto door lock system. When the chamber pressure is greater than 0.2 bar, the stainless steel lock core structure inside the automatic lock device will protrude to fix the door lock and prevent it from turning to prevent the door from being opened. A Safety Latch or Safety Bolt device is added to confirm the safety of the second time to maintain the safety of users.

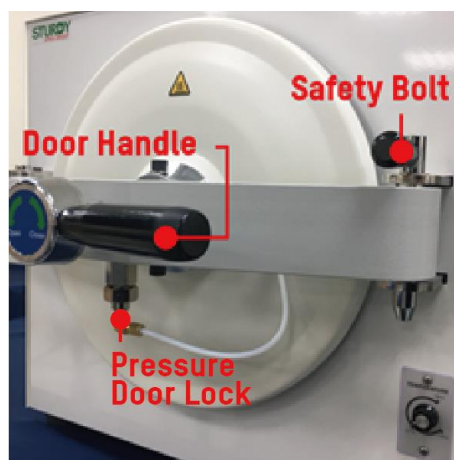
According to different models, there are three door lock systems :

**SA-252F (Door Knob + Latch) :** Lift the safety latch and close the door, and hold the hexagonal door handle, then turn it clockwise to tighten it, and then reverse the operation to open the door.

**SA-300H (Door Handle + Bolt) :** Close the door and put on the safety bolt, then hold the door handle, then turn it clockwise to tighten it, and then reverse the operation to open the door.



(SA-252F)



(SA-300H)

## **HEATING SYSTEM :**

The heating system is divided into two parts

**Sterilization heating:** The sterilization water is heated by the electric heating tube heater (M Heater) to generate saturated steam for sterilization.

**Dry heating:** The temperature of the chamber is increased by the bend heater (B-Heater) to completely dry the chamber and the sterilized loads.

### **M-Heater**

Located at the bottom of the chamber. It is made of SUS 316 stainless steel. The steam is generated by heating the water through the heater. It is equipped with an over temperature controller to avoid overheating of the chamber and prolong the service life of the equipment.

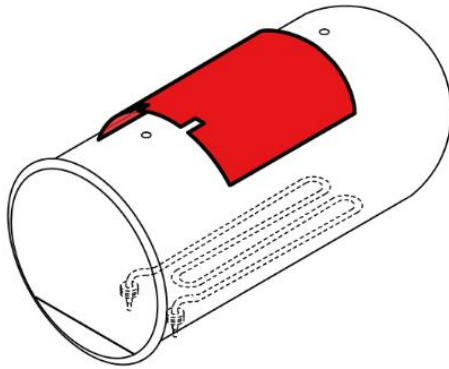
### **Powers -**

SA-252F (24 Liter) : 1,800W / 230V

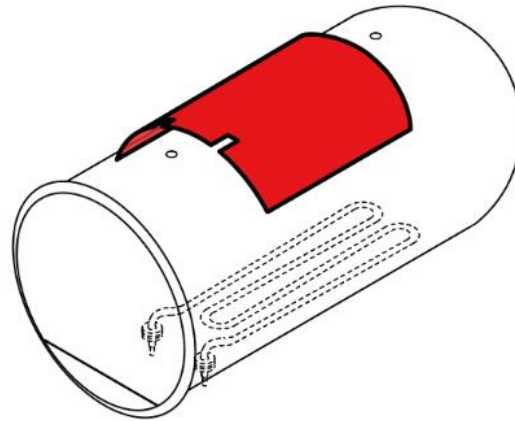
SA-300H (40 Liter) : 2,300W / 230V

## B-Heater

It is composed of silicone rubber and nichrome wire of winding elements, and is activated during the drying process to heat and keep the chamber warm, through the cooperation with the air pump and HEPA air filter, the clean air is heated and introduced into the chamber to dry the chamber and the sterilized loads. This method improves the drying efficiency by 60% compared with the airflow drying with the door open and can ensure that the sterilized load is not polluted by external air.



(SA-252F)



(SA-300H)

## Powers -

SA-252F (24 Liter) : 263W / 230V

SA-300H (40 Liter) : 435W / 230V

## Drying Methods -

- ☐ Open-Door Drying (Standard)
- ☐ Closed-Door Drying with Air Pump + HEPA Filter (Optional)

## AIR PUMP :

Using a high-flow air pump, it is activated during the drying process and interacts with the Band Heater and Air Filter, which can introduce the filtered clean air into the Chamber for heating, speed up the drying speed and maintain the sterilization effect.

The configuration and quantity of air pump in the Falcon Series are different according to the size of the chamber :

SA-252F (24 Liter) : 100W / 230V x 1 pcs

SA-300H (40 Liter) : 100W / 230V x 2 pcs

## **HEPA AIR FILTER :**

---

Using high efficiency HEPA air filter, the filtering effect of air particles below 0.03µm is over 99.99% to ensure that the sterilized items are not affected by the external environment and remain sterilized during the drying process.

The air filter not only meets the requirements of EN 13060 for air filters, but also meets the BFE and VFE filtration efficiency as high as 99.999%.

The configuration and quantity of air filter in the Falcon Series are different according to the size of the chamber :

SA-252F (24 Liter) : HEPA Air Filter x 1 pcs

SA-300H (40 Liter) : HEPA Air Filter x 2 pcs

## **FILLING WATER SYSTEM :**

---

Falcon series adopts manual water filling method and has a water tank. Water can be pre-installed into the water tank without worrying about local pipe position, which greatly reduces the requirement for placement. Turn the water filling knob 90 degrees counterclockwise to open the gate to allow water to flow into the chamber, and turn the knob 90 degrees clockwise to stop filling when the water is over the M-Heater.

### **Water Tank Volume -**

SA-252F (24 Liter) : 4,200 (cc)

SA-300H (40 Liter) : 8,400 (cc)

## **COMMAND AND CONTROL SYSTEM :**

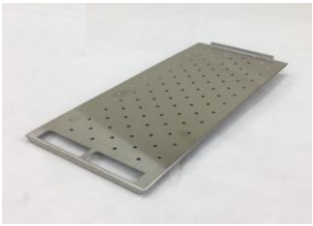





---

Designed with traditional mechanical engineering. All operations are carried out through the operation panel on the front of the equipment. The operation panel consists of pressure gauge, emergency and sterilization process indicator, sterilization temperature knob, sterilization graduated timer, drying graduated timer, start, emergency and power switch button and a water filling knob. The overall operation is simple and convenient. Only need to filling water, set the sterilization temperature and adjust the sterilization and drying time, and then press the start switch button. The sterilization cycle will automatically start to the end without additional operations.







Sterilization temperature adjustment range of 108°C ~ 134°C, sterilization / drying timer adjustment range of 0 ~ 60 min, with extremely high flexibility can be widely used.

It has over-temperature and over-pressure protection devices. When the pressure and temperature exceed the allowable safety value, the sterilizer will shut down automatically to protect the safety of users and extend the life of the equipment.

## STANDARD ACCESSORIES :

	Name	Image	Description
<input type="checkbox"/>	Tray Base		Support the sterilizer accessories likes Basket, Tray Set, Box or sterilization loads. (All model : 1 pcs of standard)
<input type="checkbox"/>	Tray Set (Wire-Mesh)		Round tray holder, with a capacity of three stainless steel wire-mesh trays, made of 304 stainless steel. Trays dimensions (W x H x D) : 24 Liter : 190 x 21.5 x 380 mm (SA-252F : 1 set of standard)
<input type="checkbox"/>	Basket with Wire-Mesh Plate		Sterilization basket with two wire mesh plate, made of 304 stainless steel. Dimensions (W x H x D) : 40 Liter : 200 x 180 x 500 mm (SA-300H : 1 set of standard)
<input type="checkbox"/>	HEPA Air Filter		Filtering effect of air particles under 0.03µm is over 99.99%. Replace the filter according to the ambient air quality. (SA-252F : 1 pcs of closed-door drying standard) (SA-300H : 2 pcs of closed-door drying standard)
<input type="checkbox"/>	Cham Mate		Autoclave chamber & piping cleaner 10 bags/ paper box. (All model : 2 bags of standard)
<input type="checkbox"/>	Exhaust Filter		Filter the impurities in the sterilized waste water to avoid clogging the pipe. According to the filter condition, it needs to be cleaned or renewed. (All model : 1 pcs of standard)

## OPTIONAL ACCESSORIES :

	Name	Image	Description
<input type="checkbox"/>	Tray Set (Sieve Tray)		Round tray holder, with a capacity of three perforated sieve trays, made of 304 stainless steel. Trays dimensions (W x H x D) : 24 Liter : 190 x 30 x 380 mm
<input type="checkbox"/>	Tray Set (Plate)		Round tray holder, with a capacity of three stainless steel trays, made of 304 stainless steel. Trays dimensions (W x H x D) : 24 Liter : 187 x 20 x 382 mm 40 Liter : 219 x 22 x 500 mm
<input type="checkbox"/>	2 in 1 Tray Set		Round tray holder, with two stainless steel wire mesh trays, made of 304 stainless steel, which can be erected. Trays dimensions (W x H x D) : 24 Liter : 190 x 21.5 x 380 mm
<input type="checkbox"/>	Basket		Sterilization basket, made of 304 stainless steel. Dimensions (W x H x D) : 24 Liter : 220 x 120 x 370 mm 40 Liter : 200 x 180 x 500 mm
<input type="checkbox"/>	Basket with Wire-Mesh Plate		Sterilization basket with two wire mesh plate, made of 304 stainless steel. Dimensions (W x H x D) : 24 Liter : 220 x 120 x 370 mm 40 Liter : 200 x 180 x 500 mm
<input type="checkbox"/>	Box		Sterilization box, made of 304 stainless steel wire. Dimensions (W x H x D) : 24 Liter : 210 x 125 x 370 mm 40 Liter : 200 x 180 x 500 mm

<input type="checkbox"/>	Spring Holder		Made of 304 stainless steel, which is easy to load and unload the bagged instruments, and carry out proper sterilization and drying. Dimensions (W x H x D) : 97 x 122 x 148 mm
<input type="checkbox"/>	Sterilization Pouch		Sterilization pouches are practical and easy to use, providing a fast and effective containment for equipment.
<input type="checkbox"/>	RO Water Filter		Filter out dirt odor, chlorine and salt; extending life usage of the sterilizer and quality. Quicker production & supply RO water
<input type="checkbox"/>	Water Distiller		Water distiller turns water into steam to remove fluoride, arsenic, lead, viruses and other contaminants, protecting your sterilizer and instruments at a fraction of cost.

## **VOLTAGE :**

AC 230V, 50/60Hz

## **WATER AND ENERGY CONSUMPTION :**

		SA-252F	SA-300H
Total Power (W)	No Drying (Standard)	2,063W (230V)	2,735W (230V)
	Closed-Door Drying with Air Pump (Optional)	2,163W (230V)	2,935W (230V)
Water Consumption per cycle (cc)		400 ~ 550	1,000 ~ 1,200



## **OVERALL DIMENSIONS :**

SA-252F (24 Liter) : 540mm × 450mm × 630mm (W x H x D)

SA-300H (40 Liter) : 600mm × 470mm × 740mm (W x H x D)

## **NET WEIGHT :**

SA-252F (24 Liter) : 45kg

SA-300H (40 Liter) : 66kg

## **ENVIRONMENTAL CONDITIONS IN THE STERILE AREA :**

- \* Indoor use;
- \* Under 1,000m (altitude);
- \* Temperature 5°C to 40°C;
- \* Relative Humidity 80%RH@31°C to Relative Humidity 50%RH@40°C;
- \* Voltage fluctuation ±10 %;
- \* Transient overvoltages category II;
- \* Pollution degree 2

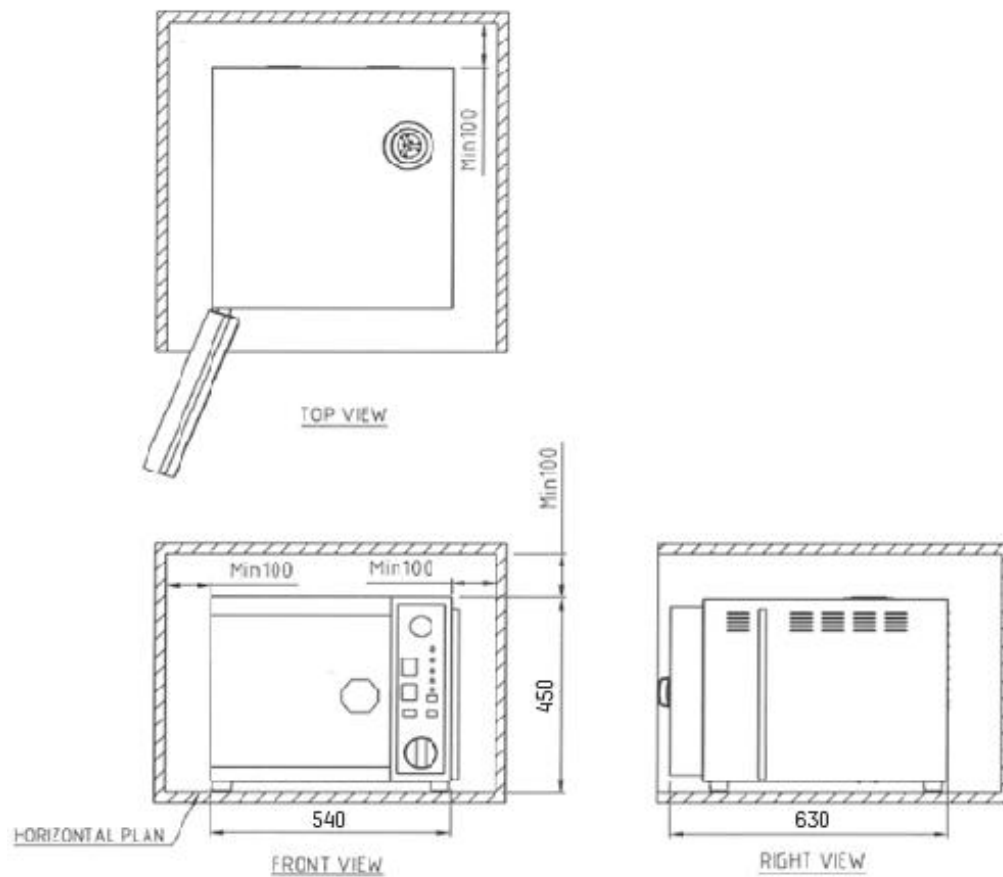
## **INSTALLATION INSTRUCTION :**

This equipment has been designed for use in accordance with the International EMC (Electromagnetic Compatibility) Standards.

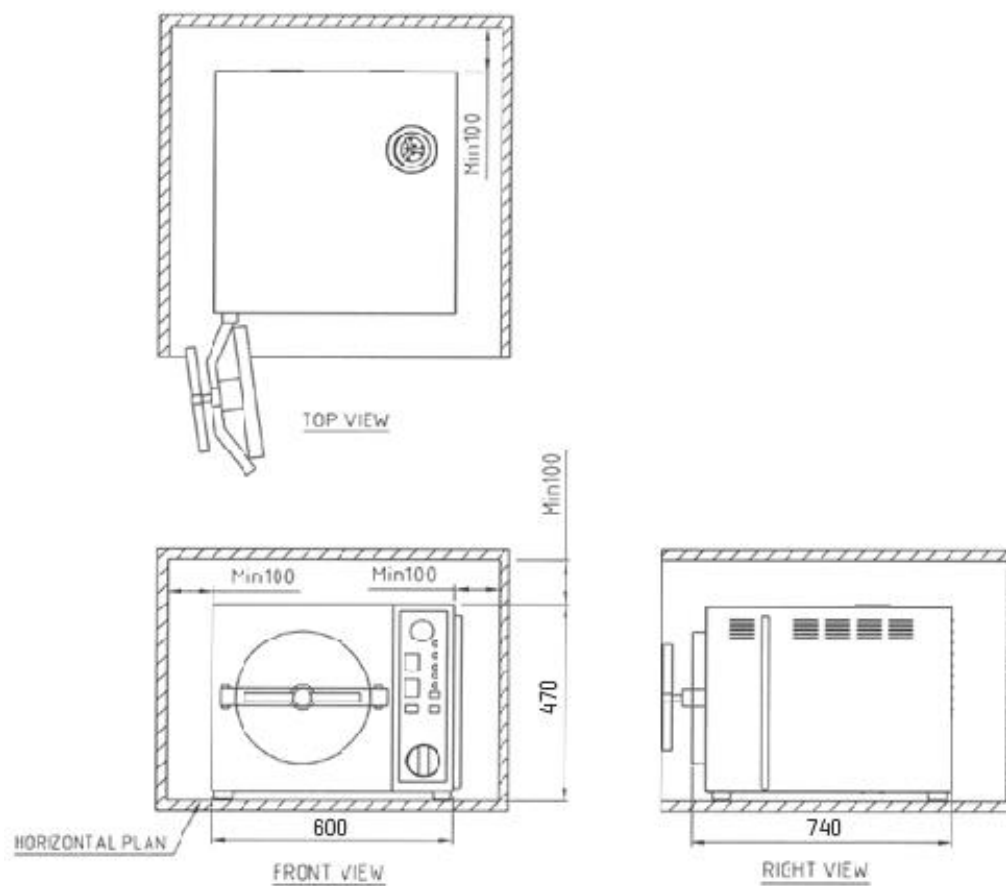
Please note the following points when installing this equipment :

1. Please install it in a stable and firm place. When installing, be sure to keep the machine body with a ventilation distance of more than 10 cm on the top, back panel, and left and right sides. Make sure that the door can be opened freely after installation.
2. While installation, please make sure that the bearing capacity of installation table is enough to carry the sterilizer.
3. Do not install or operate the sterilizer in areas where flammable items or volatile substances are used or stored. An explosion could occur, causing personal injury. An installation site with good air circulation is required.
4. Be sure to install the sterilizer on a flat surface, otherwise it may not detect the water level correctly.

- SA-252F installation drawing



- SA-300H installation drawing



## **RECOMMENDED SUPPLY WATER QUALITY :**

Suggested maximum limits of contaminants in and specification for water for steam sterilization.

	Feed water
Evaporate residue	$\leq 10 \text{ mg/l}$
Silicium oxide, $\text{SiO}_2$	$\leq 1 \text{ mg/l}$
Iron	$\leq 0.2 \text{ mg/l}$
Cadmium	$\leq 0.005 \text{ mg/l}$
Lead	$\leq 0.05 \text{ mg/l}$
Rest of heavy metals, excluding iron, cadmium, lead	$\leq 0.1 \text{ mg/l}$
Chloride	$\leq 2 \text{ mg/l}$
Phosphate	$\leq 0.5 \text{ mg/l}$
Conductivity (at $20^\circ\text{C}$ )	$\leq 15 \text{ }\mu\text{s/cm}$
pH value	5 to 7.5
Appearance	colourless, clean without sediment
Hardness	$\leq 0.02 \text{ mmol/l}$
NOTE - The use of water for steam generation with contaminants at levels exceeding those given in this table can greatly shorten the working life of a sterilizer and can invalidate the manufacturer's warranty guarantee.	

**Compliance should be tested in accordance with acknowledged analytical methods.**

**This document is intended for the exclusive use of STURDY clients, including architects or designers. The complete or partial reproduction of any part to anyone who is not a Client is prohibited.**

---

For more information, contact



STURDY INDUSTRIAL CO., LTD.  
168, Sec.1, Zhongxing Road, Wugu District, New  
Taipei City 24872, Taiwan, R.O.C  
Tel.: 886-2-2981-5245 Fax.: 886-2-2984-8208  
Email: [foreign@sturdy.com.tw](mailto:foreign@sturdy.com.tw)  
[www.sturdy.com.tw](http://www.sturdy.com.tw)

We reserve the right to modify any characteristic present in this material, with the aim of updating the products related to the market needs and / or the application of project norms and construction of the equipment.