

## GR Series Vertical Autoclave

### Advanced

#### 1. Smart microcomputer control

“Inspiration” high speed microcomputer control, not only to monitor and control the whole process, but also to update the function in the future.

#### 2. Program Memory storage system

User can set their own program, and saved in system.

#### 3. Calibration interface

Offer temp. and pressure interface, together with the 3Q adapter joints, can insert max 15 sensors one time to do the calibration work

#### 4. DAturated steam monitoring

The system automatically monitors the purge out of cold air to ensure the pure steam environment

#### 5. Auto water fill(only for DF , DR models)

Equipped with automatic water feeding function, standard is with 28L water tank at the back to store water, option is direct water supply by pipe connection from water source while manufacturing.

#### 6. Biosafety function(only for DAS , DFS , DRS)

Use a 0.2 μm PTFE filter packed in a housing to ensure that no biohazard aerosols, microorganisms and viruses are passing out through the filter during exhausting, so as to make sure the biology safety of the lab.

#### 7. Monitor of exhaust filter( only for DAS, DFS, DRS)

Exhaust filter is put inside a pressure resistant housing (stainless steel material) with an extra PT100 temperature sensor to monitor the temperature, so as to make

sure the filter and housing are also being sterilized thoroughly, and will not lead to secondary biohazard pollution.

#### 8. SUS316L Stainless steel(Optional)

Stronger corrosion, longer service life, and greater pressure resistance.

#### 9. Humanized permission management

The management of the autoclave is classified into 3 levels, user-administrator-engineer, to make sure proper usage.

#### 10. Agar program

Can heat up, melt, warm the agar or used as chamber preheating function

#### 11. Waste program

Special waste program to sterilize the waste thoroughly

#### 12. Auto start up appointment

Can make an appointment in 0- 15 days

#### 13. Fully automatic drying( only for DR models)

Can set drying temp. and drying time. After sterilization, water will be drained out automatically, then an inbuilt pump will supply clean air into the chamber through an air filter.

#### 14. Air filter( only for DR models)

Filtration is higher than 99.99% in particle with diameter of 0.2 μm.

#### 15. LCD/USB/APP/Smart management system(Optional)

LCD: 5 inch LCD screen to show information in words

USB :to help to store and transfer the sterilization data

APP: Remote management APP(only in China)

Smart management system: linked with LTMIS/SCADA system(only in China)

#### 16. Auto drainage(option)/Auto cleaning(only for DF/DR)

Added with a water pump, press the drainage button to start drainage, or set it to timed automatic drainage.

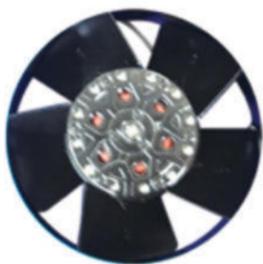
#### 17. Condenser(Optional)

Equipped with a professional condenser, the steam generated during the sterilization process is converted into water through the condenser, achieving zero discharge of water vapor/mist.



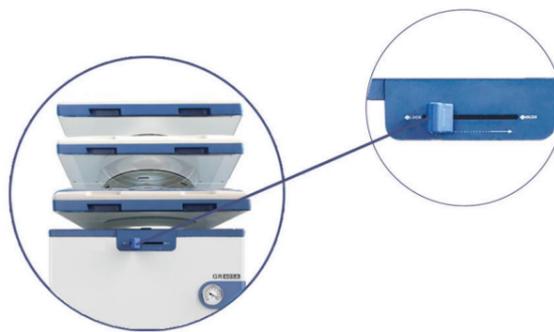
## Safety Features

- **Humanized design:** The lid and bench corners are covered with insulation to avoid getting scald.
- **Interlocking device:** The exclusive patented "eight column evenly distributed" interlock device is safer and more reliable than ordinary interlocking devices.
- **Lid closing checking:** Machine can not start if lid is not locking well by checking mechanically and electrically.
- **Real time monitor:** System will monitor the lid locking, pressure and temperature status on a real time basis to guarantee the safe and successful work of the autoclave.
- **Cooling lock OPEN temperature:** Each program can set different lid OPEN temperatures, especially for liquid program, so as to prevent user from opening lid and causing burns when the articles are still in a high temperature state
- **Triple protection for lack of water:** The bottom of the sterilization chamber is equipped with three different dry burning protection devices: liquid expansion type, copper temperature sensing type, and electric ion type (water level sensor), to avoid misjudgment caused by a single method.
- **Double protection for over pressure:** Mechanical pressure gauge and electric sensing system, once pressure is abnormal, system will cut power, release the pressure and send out alarm
- **Auto trouble shooting:** System will monitor the working status, and will cut the power, send out alarm, and report the error information once any abnormal situation detected Safety test function: Regular testing of system security and safety protection measures is possible.
- **Electrical protection:** Equipped with a highly sensitive electrical protection system, effectively providing leakage protection, overcurrent and short-circuit protection.

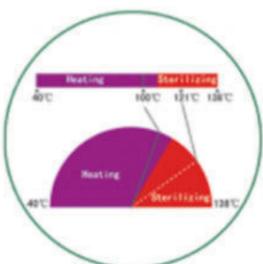


### Fast cooling fan

Standard with fast cooling fan to shorten the whole cycle



Up and down flip open, vertical chamber; One move by one hand can easily open and close

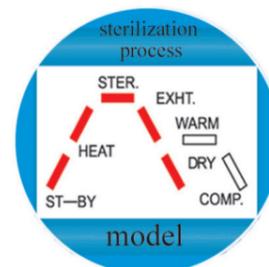


Highest working temp. !38°C



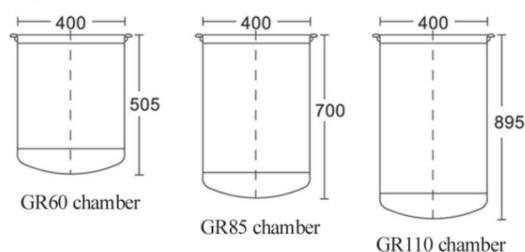
### 6 levels of exhaust speed control

After sterilization, you can choose different exhaust speed, and you can adjust it freely at any time of exhausting



### Preset diverse programs

Flow chart to show the process, press DATA at any time can check the current program setting



39CM big diameter in all GR series, more useful in application

## Technical Specification

Model	Standard GR60DA	Standard GR85DA	Standard GR110DA
	Auto water fill GR60D	Auto water fill GR85DF	Auto water fill GR110DF
	F Auto drying GR60DR	Auto drying GR85DR	Auto drying GR110DR
Difference	GR-DA: Fully automatic with fast cooling fan , GR-DF: GR-DA+ automatic water feeding GR-DR: GR-DF+fully automatic drying function		
Capacity(L)	60	85	110
Dimension(L*W*H)(mm)	DA:644x660x980	DA: 644x660x980	DA:644x660x980
	DF/DR:644x831x980	DF/DR:644x831x980	DF/DR: 644x831x1180
Chamber dimension (Dia*H)(mm)	Φ 390x505	Φ 390x700	Φ 390x895
Rated power(W)	2900	4600(2900 as option)	4600
SUS 304 Basket(Dia*H)(mm)(Note 1)	(Φ370x190)x2	(Φ 370x280)x2	(Φ 370x250)x3
Power requirement	220V±10% 16A 50HZ/60HZ	220V±10% 32A 50HZ/60HZ	220V±10% 32A 50HZ/60HZ
Temperature display accuracy	0.1°C		
Working environment	5°C~40°C relative humidity ≤85%		
Chamber material	SUS304 stainless steel		
Sterilization temp.range	105°C~138°C		
Sterilization time range	1~6000 min		
Melting temp. range	60°C~115°C		
Melting time	1-6000 min		
Warming temp	45°C~79°C		
Warming time	1~9999 min		
<b>Drying(only for SR)</b>	<b>Drying time: 1~300 min Drying temp:80~160°C</b>		
Cooling lock OPEN temp.range	40°C~99°C for solid,waste,agar,self-defined 40°C~80°C(note 2)for liquid		
Sterilization mode	Liquid,Liquid with warming,solid,Wrapped instrument,Fabric,Rubber,Fast,Waste,Agar,Self-defined		
Program number saved	<b>DA:20 programs DF/DR:60 programs</b>		
Exhaust speed control	Fully automatic internal discharging with 6 levels choice		
Lid open way	Flip open(up and down)		
Water tank	<b>DA:2 water tanks to collect steam</b> <b>DF:1 water storage tank more than DA</b> <b>DR:1 water tank to collect steam+1 water storage tank (note 3)</b>		
Appointment timer range	(Auto start up appointment)0~15 days		
Pressure gauge range	0.1~0.5MPa		
Pressure valve set pressure	0.29 Mpa		
Controller	"Inspiration" smart microcomputer controller		
Safety Device	Eight column evenly distributed "interlock device electric double inter lock lid closing checking dry scorch protection. age),cooling lock, anti-scald lid and bench corner,automatic troubleshooting		
Biosafety function	Option for 0.2um biosafety filter(basic model+S)		

Note 1:Baskets can also be customized

Note 2:Cooling lock OPEN temp. is related to local boiling point

Note3:Optional sewer drainage for SR while manufacturing

## Spare part option



Micro printer  
To print temp.,time and FO value



Digital pressure sensor



Load thermometer  
(Floating PT100 sensor)



Tray



Stainless steel bucket



IQ/OQ/PQ (3Q)adapter joint



Adjust foot

Printing set:printer+digital pressure sensorcan print temp. and pressure in data and How chart way

IQ/OQ/PQ documents  
USB: to transfer the data by USB  
LCD: change display screen from LKD to LCD