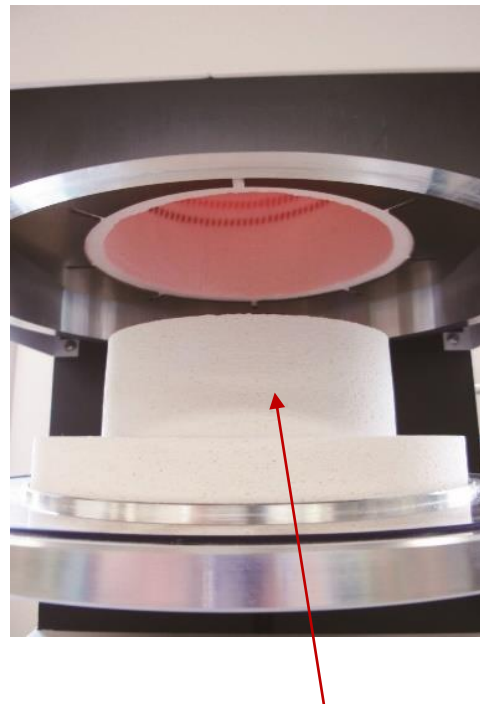
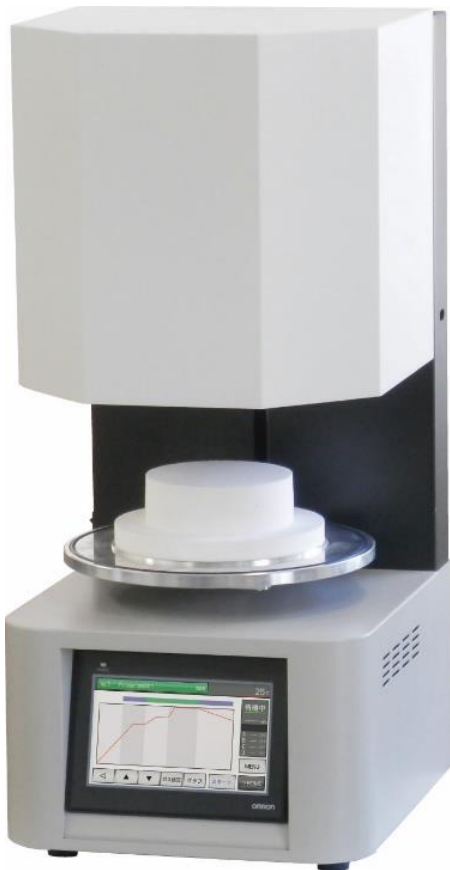




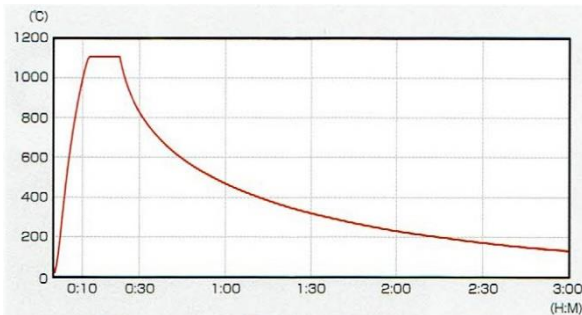
**Auto-Vacuum Gas Replacing Electric Furnace
VF-5000
Manufactures by SK Medical Electronics Co., Ltd.**

Utilize for firing test in any scientific fields!
Suitable for heating under vacuum/inert gas atmosphere!



Ceramic Fiber Plate

Heating/Cooling Characteristic



Condition: No load in furnace, set at 1100°C,
FULL heating and natural cooling
This illustrates representative value, not a guaranteed value.

Progressing status display for program (process)

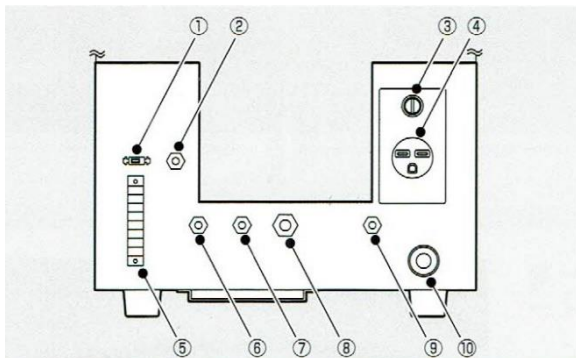
Visual confirmation is attained for heating process and progressing status



Features

- **Furnace with excellent heat efficiency**
Realized high heat efficiency, speedy heating and max. 1100°C reach, by one-unit molding embedded heater in ceramic fiber plate, which has excellent thermal insulation property.
- **Auto-vacuum/Gas replacing function**
By achieving auto-programming control for vacuuming and gas supply, troublesome vacuum before heating, gas replacing and atmosphere during heating can be controlled. Only vacuum auto-operation and manual operation are also achievable.
- **Adopts large color touch panel**
Easy operation is attainable such as respective program input by adopting 7-inch color touch panel. Specific name can be defined as in inputted program. Visual confirmation is available as graph display for progressing status of process.
- **Data log function equipped in standard**
Temperature data log at heating stage can be stored in USB memory (CSV file). Attainable program storing (backup) and reading via PC.
- **Safety design**
Heater current is always monitored and detect over-current and/or disconnection. By isolated temperature monitoring element, heater current is directly shut down when abnormal high temperature occurs. Other functions are equipped, such as thermocouple disconnection, vacuum abnormality and furnace up/down part abnormality detection.
- **Hearth Up/Down function**
As furnace hearth part can be up/down moving, it can easily handle with the object to be heated. No need to attaching/detaching flanges as in tubular furnace. Especially when firing times are increased, workability is drastically improved.
- **Replacement/Flow gas exchange signal** Relay contact point, 4 points
At the time of gas replacement process in auto-running, contact point is ON at designated step. By using this signal, trigger signal as replacement gas exchange or ratio alteration timing can be executed.
- **Connecting external vacuum gauge**
The unit is usually operated only with built-in vacuum sensor. When vacuum rate is measured at high accuracy, external vacuum gauge can be connected at connecting port.
(External vacuum gauge and piping are optional.)

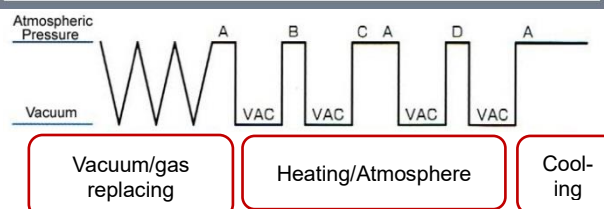
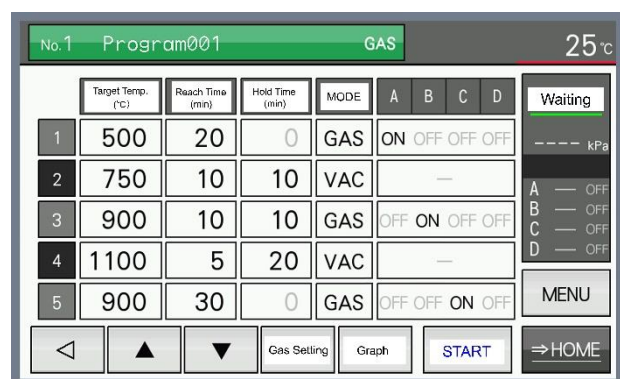
Structure (Rear)



① SP signal input connector (SP: Set point)	⑥ Gas introduction port
② Connection port for external vacuum gauge	⑦ Air release inlet port
③ Fuse for vacuum pump	⑧ Connection port for vacuum pump
④ Outlet for vacuum pump (AC230V)	⑨ Gas exhaustion outlet
⑤ Timing signal output	⑩ Power cord (3m)

Auto-control function for vacuum/gas auto-replacement, heating atmosphere

- Auto-control for vacuum before heating/gas replacing process
- Auto-control for atmosphere during heating process (vacuum, gas flow)



Specifications

Model name	VF-5000
Power source	Single phase, AC230V±10%, 50/60Hz
Consumption power	1.6kVA
Controlling thermocouple	JIS R thermocouple
Heater/Capacity	Kanthal, AF/1540W
Max. temperature	1100°C (Usually at 1000°C)
Temp. control accuracy	Less than ±2°C
Effective furnace inside dimensions	φ130 x H120mm (furnace inside, φ140 x H134mm)
Attainable vacuum	50Pa or less
Vacuum measuring accuracy	Max. ±3% vs. FS
Handling object to be heated	Furnace hearth up/down method
Cooling for furnace	Air cooling fan (Working fan is automatically ON/OFF at furnace inside temperature)
Programming	20 steps x 100 programs
Exchanging introduction gas	Timing signal contact point output (max. 4 points)
Data log function	USB memory: Data log/Program backup
External dimensions/Weight	W340 x D390 x H740mm / ca. 42kg
Safety functions	Abnormal temperature, thermocouple disconnection, heater over-current/disconnection, abnormal vacuum, motion up/down abnormality, circuit protector
Options	Vacuum pump set (oil rotation 40/48L/min) Pirani vacuum gauge (measuring range: 5 x 10 ⁻² Pa to atmospheric pressure)
<u>Cautions</u>	<p>※ Only inert gases (nitrogen, argon) are applied as replacing and flow gas. Unable to use oxidation/reduction gas, dangerous explosive/corrosive gas and conductive gas.</p> <p>※ Need to countermeasure of diffusion protection for powder sample heating. (ex. Power should be put on the crucible with the cover.)</p>

VF-5000 Introduction PP Slides

*** To the customer who inquires.

- Sample size and its material
- Degree of reaching vacuum
- Heating atmosphere environment

When inquiring, please let us know above 3 information together. We will suggest the most appropriate specification to your request.