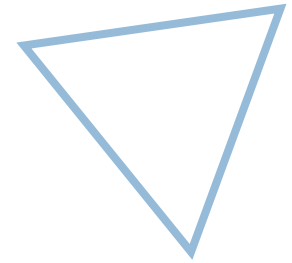




**SH SCIENTIFIC  
FEATURED  
PRODUCTS**

# Quartz Chamber *Vacuum* Muffle Furnace



## MGVQ SERIES

*Clean Room Inside Your Vacuum Muffle Furnace*

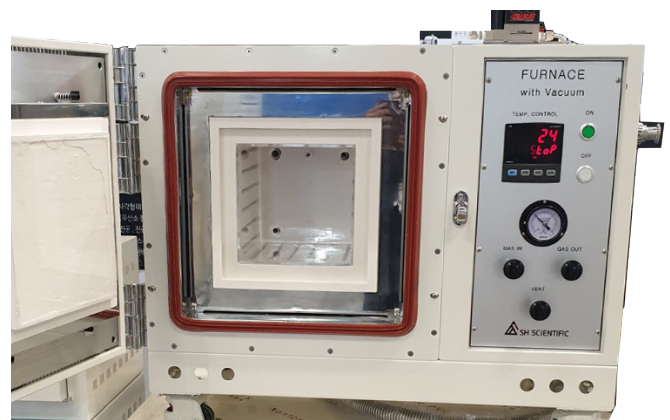
MODEL	CHAMBER SIZE (W x D x H)	MAX °C
SH-FU-1.5MGVQ	1.3 Liter (109mm x 112mm x 109mm)	1,200°C
SH-FU-10MGVQ	9.3 Liter (209mm x 212mm x 209mm)	1,200°C
SH-FU-31MGVQ	29.8 Liter (309mm x 312mm x 309mm)	1,200°C

Our MGVQ line of quartz chamber vacuum muffle furnaces provide a cleanroom right inside your furnace's chamber.

This series brings comprehensive programmability and complete gas flow control—ideal for calcination, sintering, and annealing.

What's more, the high-performance quartz interior delivers three distinct advantages:

- Ensures non-contaminating cleanroom conditions for delicate samples
- Extends the life of the heating elements
- Enhances temperature control for even more precise thermal treatment



# Vacuum Muffle Furnace



What if there were a way to combine the inert-gas dispersion of a tube furnace with the accommodating chamber of a muffle furnace?

That's exactly what our vacuum muffle furnaces accomplish.

As of writing, SH Scientific is the only manufacturer offering tube-like gas management in a muffle-style chamber.

Our vacuum muffle design is popular with facilities that need strict atmospheric control with larger volume, but don't require a transparent chamber.

Today, this include labs that:

- Make anode and cathode materials for secondary battery cells
- Perform vacuum or inert-gas sintering for materials R&D
- Heat treatment at 1,000°C and rapid cooling (quenching) for space seismometer development
- Fabricate medical devices by annealing alloy powders without oxidation
- Vacuum-braze and heat-treat steel for metallic parts production
- Soften, anneal, and age-harden Inconel 718 tubes for subsea or surface injection

Scenarios like these are highly sensitive to oxidation, which rules out ordinary muffle furnaces.

# Muffle Furnace

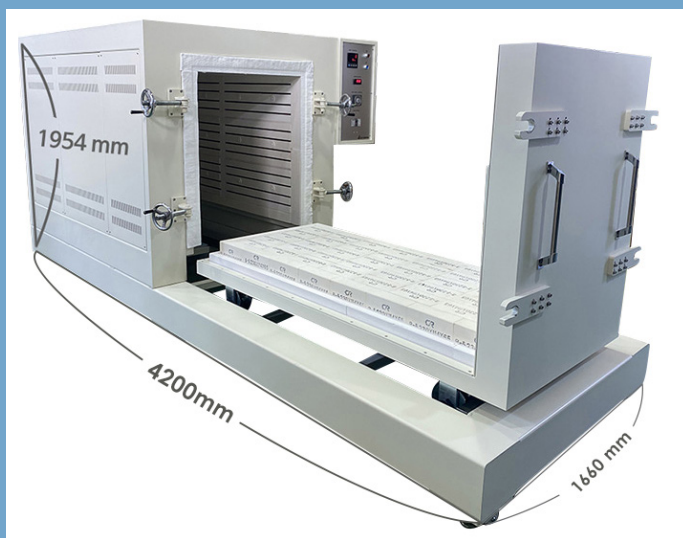
After years of R&D alongside leading commercial and university labs, SH Scientific has manufactured one of the most durable, intuitive muffle furnaces in the world.

Our furnaces rapidly heat to 1050°C, 1200°C, 1500°C, 1800°C, or 1900°C, depending on the series. Temperature-specific heating elements and housing ensure thermal efficiency and remarkably low surface temperatures.

From economical general-purpose models to ultra-high-temperature furnaces, all equipment is subject to the same rigorous inspection and quality control processes.



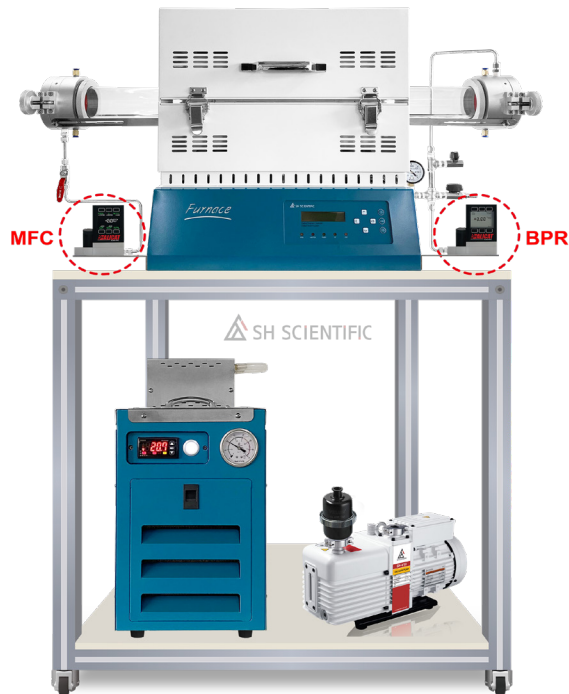
## Sliding Cart Furnace



Cart furnaces make sense when a muffle furnace is technically appropriate but lacks capacity. They're optimal for large-scale heat treatment, most often in applications like:

- **Battery R&D**
- **Ceramic debinding & sintering**
- **Release agent removal**
- **Bulk pyrolysis**

# Tube Furnace & *High Vacuum System*



Our tube furnaces with gas supply system offer high-precision heating and inert gas management for smaller samples.

Easy hinged access and a sliding design make them quick to access, heat, and cool in hectic labs.

- *Tube diameters of 50, 80, 100, or 120 mm*
- *Maximum temperatures of 1200°C, 1500°C, or 1800°C*
- *Mass flow controller and back pressure regulator*

## High Vacuum System

Our standard high vacuum system comprises a diffusion pump and a 312 L/min dual stage rotary vane pump capable of 10<sup>-6</sup> torr.

This standalone system is relatively simple to connect to any existing vacuum chamber. One common application is titanium annealing, for which we've already equipped a university's mechanical engineering department as well as a medical implants manufacturer.



# Autoclave

Our research-grade autoclaves are among the safest and most intuitive laboratory solutions on the market.

Their compelling pricing and excellent temperature uniformity ( $\pm 1^{\circ}\text{C}$  at  $121^{\circ}\text{C}$ ) make them the choice of laboratories, food producers, and manufacturing industries around the world.

- Capacities from 60 to 300 L
- Space-efficient vertical design
- Numerous pressure and temperature safeguards



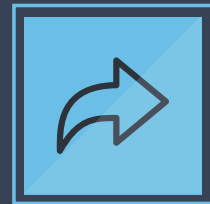
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