



## Continuous Vacuum Sintering Furnaces

VS Series

### **Simplified sintering process for powder metallurgy moldings**

Shortened sintering process has made it possible to do continuous dewaxing, vacuum sintering and cooling. In particular, the design is made to treat the evaporated wax and to maintain temperature uniformity and to prevent evaporation of alloy elements in the sintering chamber.



## Features

### 1. Shortened process

More advantageous in process-saving, power-saving, space-saving and energy-saving than the conventional system (atmosphere dewaxing furnace + vacuum sintering furnace).

### 2. Excellent wax recovery system

The walls of the vacuum dewaxing chamber are of a reflector structure instead of a water-cooled structure to prevent the adhesion of wax to the chamber wall. Furthermore, removed wax is periodically recovered by a catcher at the furnace bottom.

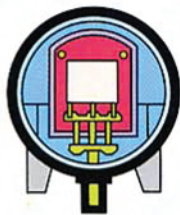
### 3. Improved quality of treated material

- Uniform and high efficiency vacuum dewaxing
- $\pm 3^{\circ}\text{C}$  temperature uniformity in the sintering chamber, and uniform sintering density
- High quenchability by adoption of pressure cooling method (Pressure quench).

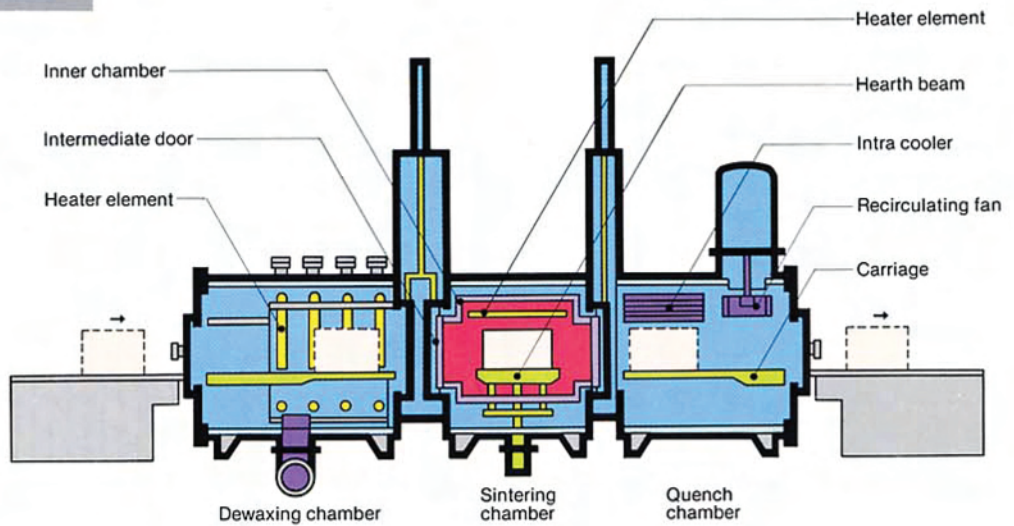
### 4. High productivity

The continuous straight-through type eliminates time lag between the processes. Unmanned, fully automatic operation is also available.

## Construction



Section view of sintering chamber



## Standard Specifications

Model	Work Space (W × D × H mm)	Max. charge (gross kg)	Furnace Temp. (°C)	Temperature Accuracy (°C)	Vacuum Level (Pa)	Utilities			
						Electric Power (kVA)	Cooling Water (m <sup>3</sup> /h)	Gas (m <sup>3</sup> /ch)	High Pressure Air (MPa)
VS-20	460 × 610 × 300	150	Dewaxing chamber 500 Sintering chamber 1350	lower $\pm 3$	0.13 ( $10^{-3}$ Torr)	180	8	2.5	higher 0.4
VS-30	610 × 920 × 460	450				300	12	6.0	
VS-50	760 × 1220 × 610	650				420	20	10.0	

• Treating material: Powder metallurgy moldings

• Wax: Stearic acid base and paraffin base, ~1 wet%

※ This catalog uses SI units which can be calculated from the following formula. ● 10.0kgf/cm<sup>2</sup>G = 1.0MPa (1kgf/cm<sup>2</sup> = 0.1MPa)

**!** SAFETY PRECAUTIONS: Read the instruction manual carefully before using the equipment.

**CHUGAI RO CO., LTD.**

URL <http://www.chugai.co.jp/>

Sakai Works: 2-4, Chikko-Shinmachi, Nishi-ku, Sakai 592-8331, Japan  
Tel +81-72-247-2206 Fax +81-72-247-2290

Tokyo Branch: 2-5-7, Konan, Minato-ku, Tokyo 108-0075, Japan  
Tel +81-3-5783-3375 Fax +81-3-5783-3368

Nagoya Sales Office: 1-21-19, Meieki-Minami, Nakamura-ku, Nagoya 450-0003, Japan  
Tel +81-52-561-3561 Fax +81-52-561-3566

● The descriptions and specifications are subject to change without notice.