



*Thermal debinding/
removal of*

- *polymers*
- *waxes*
- *solvents*

in

- *vacuum*
- *air*
- *inert or reducing atmosphere*

with or without

- *weight-loss rate control*

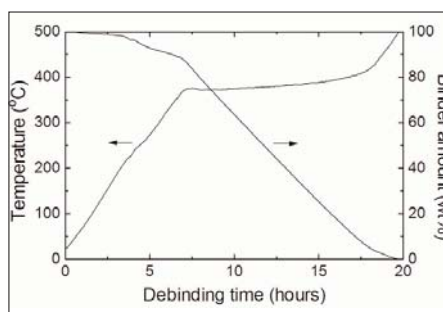
Debinding Furnace

GOCERAM Debinding Furnaces are adapted for industrial thermal debinding/removal of volatiles, such as polymers, waxes and solvents, from powder based green bodies. The furnaces can be run with vacuum, air, inert as well as reducing atmospheres (Naton). With a multi-level setting furniture, in combination with an internal convection fan, the production-size horizontal furnace can be efficiently filled with parts for rapid removal of almost unlimited amounts of volatiles. The furniture is sliding on runners for smooth and fast loading and unloading. All internal furnace parts are made of heat resistant stainless steel and there is no volatile-absorbing fibre insulation present inside, which makes the furnace robust and easy to maintain.

Rate controlled debinding

The furnaces can be equipped with a PC-controlled balance, placed underneath the heating chamber, which continuously records the weight loss rate. With a software based on TestPoint™ from CEC, a pre-programmed weight loss rate controls

the process temperature, ensuring reduced debinding times and minimal risk of debinding defects. All furnaces are already from the beginning prepared for adding this device.



Vapour collecting system

Binder vapours are collected in a cold trap, equipped with cooling water jacket and electrostatic filter. The cold trap chamber is made of stainless steel and is designed to be easy to empty and clean. As an option, an additional mist collector can be included in the vapour collecting system.

Internal fan and gas flow

All furnaces are equipped with internal heat-resistant convection fans for even heat distribution and accelerated debinding rates. The rate of the gas, flowing through the furnace chamber and into the cold trap, is controlled by a flowmeter. To speed up the gas flow and at the same time save expensive gases, it is possible to recycle some of the gas from the cold trap outlet and feed it back into the furnace (option).

Options

Balance system for weight-loss rate control including PC control unit

Extra multi-level furnace furniture

Maximum temperature 800°C

Gas recycle system

Custom-built Debinding Furnaces according to specific requirements

Technical Data

GC-DV GC-DV-RC

GC-DV	Debinding Vacuum
Effective chamber volume	50 l, 100 l
Atmosphere	Air, Inert, Naton (10% Hydrogen + 90% Nitrogen) & Vacuum
Maximum temperature	600°C (special design 800°C)
Rate of gas flow	0.1 - 200 l/h (50 l), 0.2 - 400 l/h (100 l)
Vacuum pressure	<10 ⁻¹ mbar
-RC	Weight-loss Rate Control
Maximum load	6 kg (one balance), 60 kg (two balances, 2 30 kg)
Resolution	0.01 g (6 kg), 0.2 g (60 kg)
Minimum weight loss rate	0.005 g/min (6 kg), 0.05 g/min (60 kg)
General	
Dimensions (wxdxh)	90x135x175 cm ³ (50 l), 110x165x180 cm ³ (100 l)
Weight, approx.	100 kg (50 l), 130 kg (100 l)
Mains connection	230 VAC 5%, 50-60 Hz, 1-phase 2200 W (50 l), 3500 W (100 l)

Specifications subject to change

CE-mark

The GC-DV and GC-DV-RC conform to the regulation stipulated by the European Community for CE-marking.

About GOCERAM

GOCERAM has long experience of net shape forming of ceramic and metal powder based components, especially utilising injection moulding. GOCERAM supplies complete production lines for injection moulding, including roll mills, drying ovens, mixers*, medium pressure injection moulding machines*, automatic mould tools*, debinding furnaces*, with or without weight-loss rate control, and special sintering furnaces*. In addition, a know-how package is offered for rapid start up of the production.

*Equipment designed and manufactured by GOCERAM

GOCERAM also carries out test runs of a specific material and mould according to the client's wishes, on contract basis. Another service is prototype development and test production of a variety of components.

Please contact GOCERAM or its representatives for further information.

The picture shows a selection of ceramic, metal and tungsten carbide components manufactured by the GOCERAM route.



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