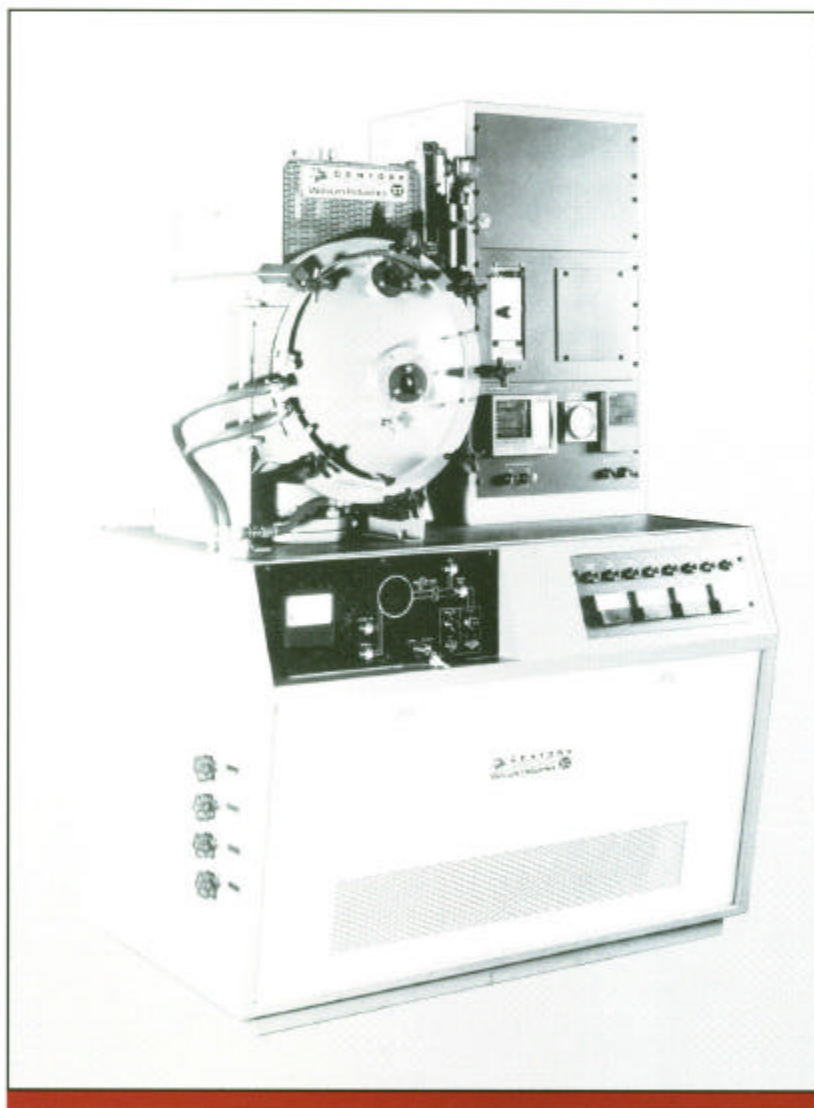




Rotavac™ *Furnaces*

IMPROVED POWDER MATERIAL PROCESSING



 **C E N T O R R**
Vacuum Industries 

Rotating Retort Tumbles Powders at Temperatures up to 2300° C

R Rotavac
Furnaces

Custom Specify Your Own System

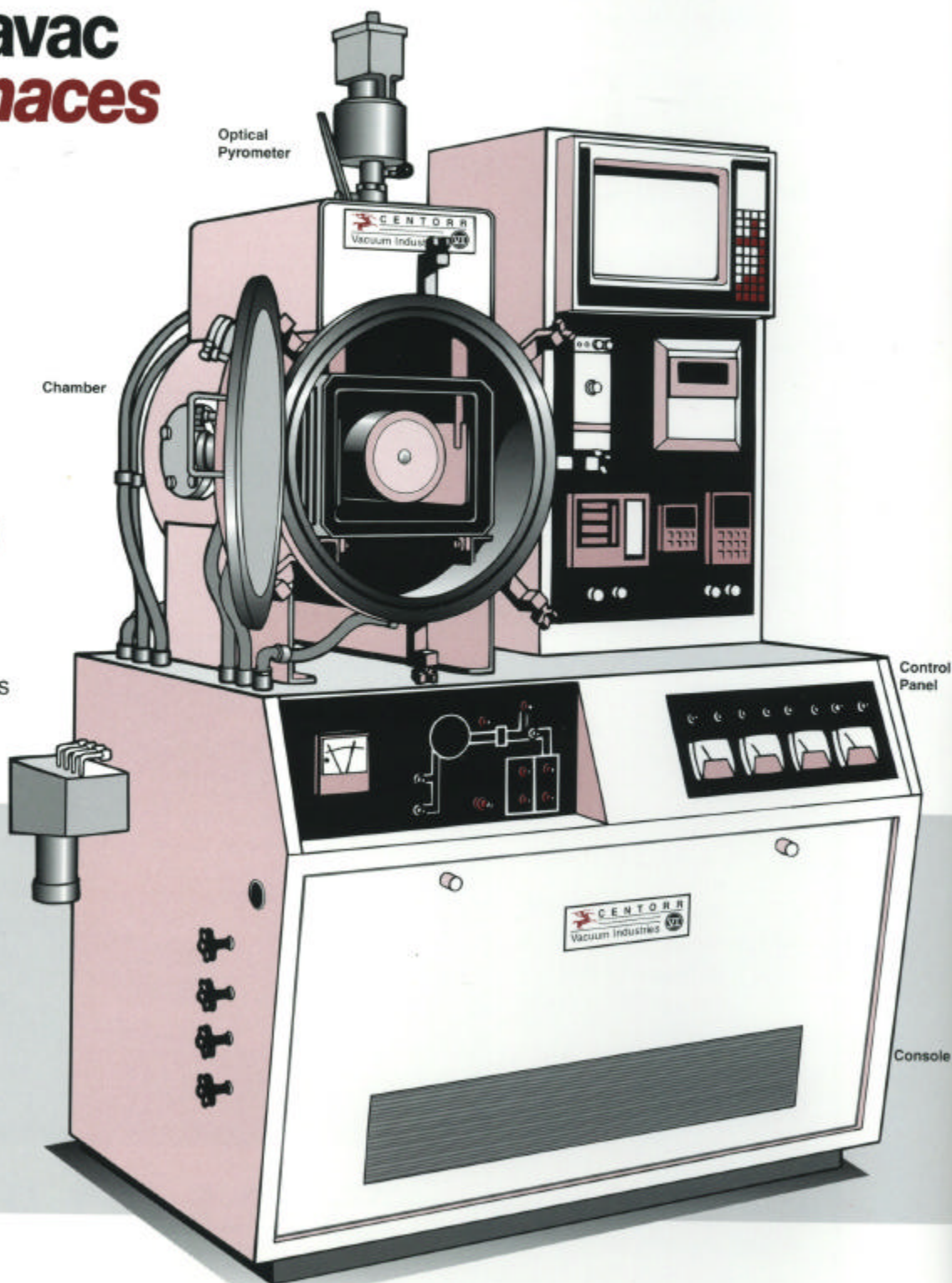
Select key modules.
For details and options
consult separate
selection chart.

RETORTS

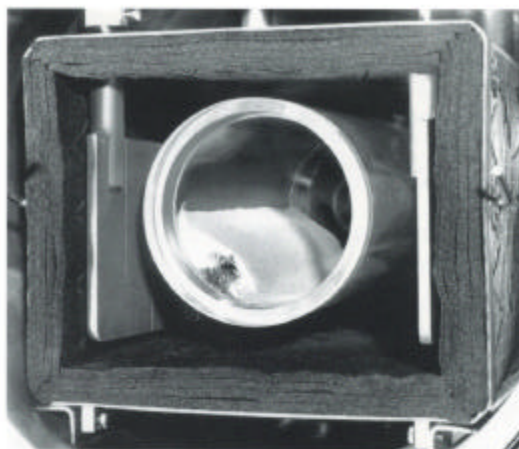
Graphite
up to 2300°C

Alumina
up to 1850°C

Stainless
up to 1000°C



Centorr/Vacuum Industries, Inc., 55 Northeastern Boulevard, Nashua, New Hampshire 03062



Every powder particle tumbles for optimum process uniformity in the rotating retort.



Graphite retort with removable cover is easily installed. With retort removed, furnace is ideal for sintering and other thermal processes.

Calcine...React...Coat...Purify

Do all the above and more in the new Rotavac™ furnace designed for lab scale powder processing. Its rotary drum retort constantly tumbles ceramic or metal powders, promoting uniform treatment, minimizing agglomeration.

Drums up to 8" dia. x 20" lg. (200 x 800 mm) are available in materials rated for temperatures up to 2300°C. The drum rotation speed is infinitely variable from 0.1 to 10 rpm. Now, for the first time, powders can be processed in rotary retort at ultra high temperatures. Besides powder preparation, the Rotavac™ furnace doubles as a 2300°C sinter/thermal processing furnace. Simply remove the retort, insert hearth and you're

ready to sinter test shapes formed from the superior powders produced in the retort.

Operating from vacuum levels of 7.5×10^{-2} torr (10^{-1} millibar) to positive pressures up to 14.5 psig (2 bar), a wide range of processing atmospheres can be provided for desired powder properties.

Building on proven, quality components, a custom system is easily specified to meet your present process development needs while providing flexibility for future requirements.

TYPICAL ROTAVAC FURNACE PROCESSES

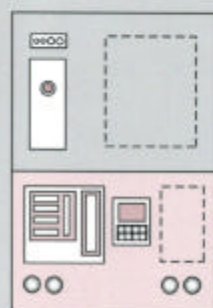
Ceramic Powders	Metal Powders
Nitriding	Carburizing
Coating	Decarburizing
Calcining	Deoxidizing
Purifying	Annealing
Reacting	Degassing
	Coating

BENEFITS OF ROTAVAC FURNACE PROCESSING

Powder Consistency:	Every particle exposed to uniform processing conditions.
Product Purity:	Volatiles removed in vacuum or swept away by gas.
Rapid Cycle:	Fast heat transfer in rotating retort.
Secondary Operation Eliminated:	Free flowing product.
Versatility:	Vacuum, inert reducing or oxidizing atmospheres.

TEST THE ROTAVAC CONCEPT IN OUR LAB

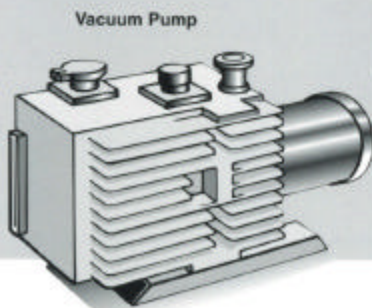
To help you plan for a furnace tailored to meet your specific needs, we've set up a completely equipped Rotavac furnace in our Applied Technology Center which you can use for trial runs. Take advantage of this opportunity to test new ideas and to confirm project feasibility.



Instruments

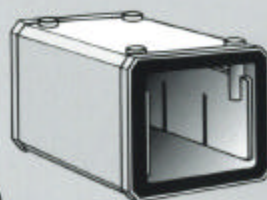


Gas Inlet

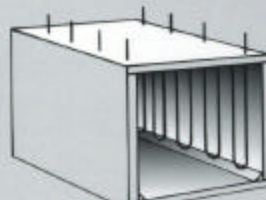


Vacuum Pump

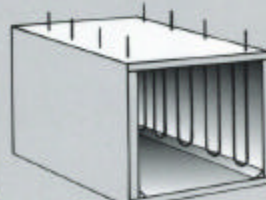
HOT ZONES



Graphite
up to 2300°C



Alumina
up to 1650°C



Stainless
up to 1000°C

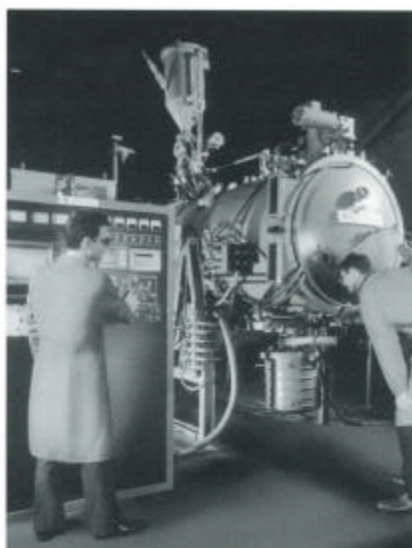


CENTORR

Vacuum Industries



Tel: (603) 595-7233 Fax: 595-9220



Production Scale Rotavac™ furnaces have high throughput and same 2300°C capability. Details available upon request.

Scaling Up For Production

Once processing parameters have been established in the Series 2500 batch furnace, a full scale production furnace with continuous powder delivery and discharge capabilities can be specified. Custom designing or modifying standard furnaces to meet each end-user's individual requirements is Centorr Vacuum Industries' specialty.

The CVI Technical Advantage

Centorr Vacuum Industries' forty years of experience in designing, building and testing vacuum and controlled environment furnaces is the technical advantage gained when you select VI Rotavac™ furnace.

During final furnace tests conducted before shipment, end-users are encouraged to participate. Instructions and drawings needed for installation, operation and maintenance are supplied with each furnace. Series 2500 Rotavac™ furnaces are simple to install, easily connected to your utilities.

Field service technicians will inspect the original installation, supervise start-up operation and review operating procedures with plant personnel. Spares and maintenance parts are readily available and back-up service is available on short notice.

Quality furnaces result from thorough process evaluation, superior design, careful manufacture and rigorous testing. C/VI furnaces are your best investment for assured development capability and production continuity.

Other Centorr Vacuum Industries Furnaces and Services:

Furnaces for Ceramics and Metals

System VII™ /Super VII™ Multipurpose Lab Furnaces

Uniaxial Hot Press Sintering Furnaces

Sintervac® Pressureless Sintering Furnaces

Sinterbar™ Isostatic Pressure Furnaces

Injectavac™ MIM/CIM Furnaces

Workhorse® Brazing/Heat Treating Furnaces

Ceramics Processing Furnaces

Reaction Sintering Furnaces

Reaction Bonding Furnaces

Co-Firing and Metallization Furnaces

Metals Processing Furnaces

Vacuum Induction Melting and Casting Furnaces

Vacuum Arc Melting Furnaces

High Vacuum Annealing Furnaces

Vacuum Diffusion Bonding Furnaces

Services

Applied Technology Center

Furnace Upgrade Services

Furnace Overhaul and Maintenance Services

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