



**TPS**  
Thermal Product Solutions

»Blue M »Gruenberg »Lindberg/MPH »Tenney

## Innovative Solutions for Composite Curing Applications

- Aerospace
- Automotive
- Wind Energy
- Construction
- Sports Products



»Gruenberg

# COMPOSITE SOLUTIONS

OUT OF AUTOCLAVE



# Out of Autoclave Curing Solutions from »» Gruenberg

TPS has the experience, process and technology to provide thermal curing solutions for aerospace, energy, automotive, and sports product composite curing applications.



Carbon Fiber  
Epoxies/Resins  
Fabrics/Preform/  
Prepregs  
Glass Fibers  
Nano Materials

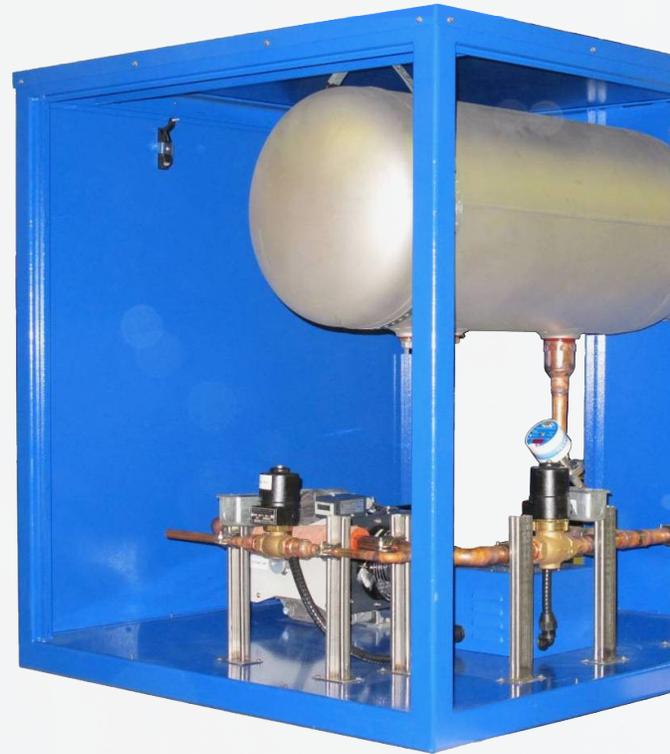


## The Expanding World of Composite Materials Relies on the TPS Composites Team

Advanced technologies call for advanced materials processing and composite materials. Industries involved in automobile, aerospace and energy production depend upon strong composite materials like aramids, kevlar, nomex, carbon fiber, epoxies, resins, nano materials, glass and ceramics.

### TPS Experience and Engineering

- Decades of experience with critical thermal processing applications
- Customer access to our Engineering Design Service (EDS) Team
- Proof of concept and proof of process
- Development of test platforms and prototype units
- Finite analysis and simulation design
- Optimizing production processes



### TPS is Your Composite Cure

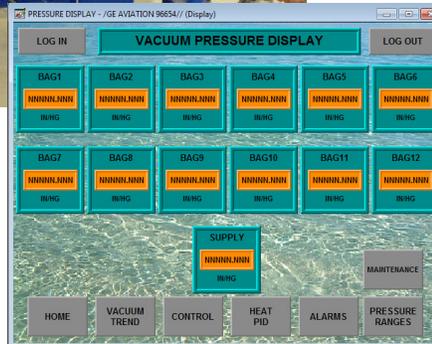
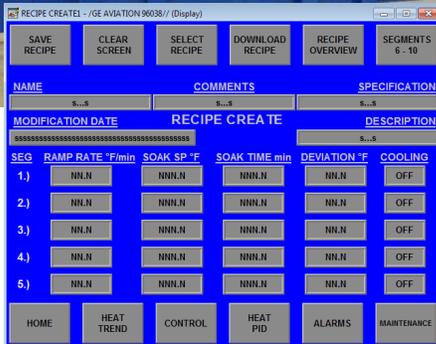
- Accurate temperature control for temperatures of 1000°F and beyond guarantees fast composite curing and quality finishing in the challenging curing process.
- Custom sizes, configurations, chambers and ports are designed for the high volume production of virtually any application.
- A variety of model options are available, from vacuum bagging systems to gas fired or electric heating.
- Systems that are cost compatible with commercial composites applications
- Progressive molding methods
- Vacuum-infusion processing
- Resin transfer molding
- Vacuum bagging and prepreg processing



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## Sophisticated Control Systems and Curing Recipe Management

- Custom software applications on the TPS Controller Platform
- Web enabled technology and remote connectivity
- Customized for each application
- Advanced recipe management
- Robust data logging
- Worry-free for the customer

Blue M, Gruenberg, Tenney  
Mailing Address: P.O. Box 150 | White Deer, PA 17887-0150 | USA |  
Phone: (570) 538-7200 | Fax: (570) 538-7380  
Physical Address: 2821 Old Route 15 | New Columbia, PA 17856-9396  
info@thermalproductsolutions.com

Specifications and Product Information are subject to change without notice.

[www.thermalproductsolutions.com](http://www.thermalproductsolutions.com)

