

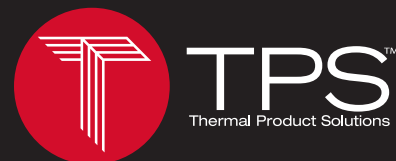


TPSTM
Thermal Product Solutions

Aftermarket Services Catalogue



Aftermarket Products & Services



www.thermalproductsolutions.com



Start-up & Training

A TPS technician inspects the installation of your equipment and performs on-site adjustments prior to giving hands-on training to operator and maintenance personnel. Start-up and training services may be included with turn-key installation packages.



Instrument Calibration

TPS can provide complete calibration services for your equipment, to include:

- A2LA certifications
- ISO 17025 calibration certification



TPS MAX Program

The TPS MAX Program allows the customer to purchase future service and/or parts without the need to have a purchase order approved and released when parts or service are needed. These funds are available to be used on parts or service in the future, saving you and your company costly down-time. Enrollment also entitles you to the many advantages listed below. Enrollment in the TPS MAX Program requires a minimum purchase of \$5,000.00. Amounts above \$5,000.00 will be accepted. Funds do not expire.

10% Off:

- Service labor (including: training, installation, preventive maintenance)
- Travel time
- Calibration
- Parts

Also included:

- Free ground shipping on parts
- No overtime charges billed for work/travel performed Monday through Friday
- Mileage is free



Preventive Maintenance

Preventive Maintenance (PM) is a service program in which wear and tear is anticipated. A PM program minimizes premature deterioration of equipment through corrective actions that ensure peak efficiency and performance. TPS technicians will customize a PM program for your equipment that involves a plan of systematic inspection, adjustment, lubrication, and replacement of components, as well as performance testing and analysis. Items that may be included in a PM Program:

- Recertification of temperature uniformity
- Cleaning and adjustment of burners to improve efficiency
- Replacement of parts, or recommendation of replacement of parts



Temperature Uniformity

TPS can adjust your equipment for proper airflow balance and heat distribution, providing a tighter temperature tolerance. Consideration is given to air pressure (positive or negative) in your building, which can impact uniformity. In many cases, profile testing and associated adjustments can be completed in a single work day. Onsite Profile Testing may include:

- Calibrated and non-calibrated testing
- Moving, parts, and static testing



GAMP Documentation

From the clients URS, TPS offers development and execution of the full range of GAMP documentation including FRS, HDS, SDS, FAT, SAT, and, IQ/OQ.



Relocation

Looking to move your equipment within your facility or to a new location? The experienced TPS aftermarket team is trained to handle your thermal processing equipment relocation from start to finish. This includes disconnection, tear down, transportation, installation, debugging and start-up. With TPS relocation services you can rest assured that your industrial oven, furnace, or test chamber is safely moved to its new location.



Online Parts Store

The TPS online parts store features an extensive inventory of replacement parts. Visit the parts store for your next order.

store.thermalproductsolutions.com



Installation Supervision

A TPS supervisor guides your installation technicians through the process, giving you confidence that your equipment is assembled and installed correctly.



Refurbished Equipment

TPS offers a full line of high quality refurbished equipment. As a standard, all equipment receives a thorough inspection of the electrical system, and as applicable, a rebuild of the humidity generator, and an upgrade of the refrigeration system to environmentally friendly refrigerants. Windows, door gaskets and other sealing components are thoroughly inspected and replaced as required. All necessary upgrades, replacements and re-finishing of the equipment are completed by TPS factory trained technicians. Refurbish quality is ensured by challenge to current factory testing and backed with the best refurbish warranty in the industry.



Rental Units

TPS has a selection of new and refurbished equipment available for rent. Renting equipment can be a cost effective alternative to buying a unit. Rental units are available for quick delivery and for a variety of time frames.

thermalproductsolutions.com/products/equipment.aspx



Turn-key Installation

A complete turn-key installation by TPS factory trained technicians takes care of your entire installation. Items that may be included in a turn-key installation are:

- Rental of any equipment needed for installation
- Off-loading of equipment
- Provide rigging crane and operator to position equipment
- Installation of any roof-mounted components removed for shipping
- Hook up all gas and utility connections
- Lag and level equipment after placed in its final location
- Verify operation of equipment after installation is complete



TPS[™]
Thermal Product Solutions

»Blue M »Gruenberg »Lindberg/MPH »Lunaire
»Redline Chambers »Tenney »Wisconsin Oven

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Installation Services



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Precise installation and comprehensive training of your staff are key to ensuring that your equipment operates properly. Thermal Product Solutions, LLC (TPS) offers a variety of installation and training options to ensure your equipment has a long productive life. Whether you just need a qualified TPS supervisor to guide your installation personnel or a complete turn-key installation done by our experienced TPS team, TPS has an option that is right for you.

Select one of the installation options below and be rest assured that your equipment is assembled and installed correctly.

Installation Supervision

During installation, a TPS supervisor guides your installation personnel through the process, giving you confidence that your equipment is assembled and installed correctly.

Start-up & Training

A TPS technician inspects the installation of your equipment, performs on-site adjustments, and reviews the safety programs and features prior to giving hands-on training to operator and maintenance personnel. Start-up and training services may be included with any level of installation packages.

Turn-key Installation

A complete turn-key installation by TPS factory trained technicians take care of your entire installation from start to finish. Turn-key installation only available on specific products. Items that may be included in a turn-key installation are:

- Factory trained technicians on-site for the duration of the installation
- Rental of any equipment needed for installation
- Off loading of equipment
- Provide rigging crane and operator to position equipment
- Installation of any roof-mounted components removed for shipping. Customer responsible for penetrations to building
- Hook utility connections to unit
- Lag and level equipment after placed in final destination
- Verify operation of equipment after installation is complete

Preventative Maintenance



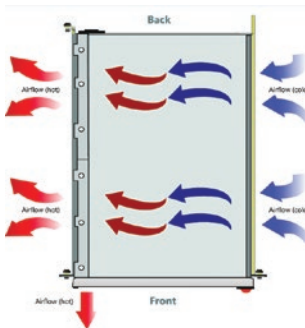
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Preventative Maintenance (PM) is a service program in which wear, tear, and change are anticipated, and continuous corrective actions are taken to ensure peak efficiency and performance. PM will help to minimize premature deterioration of your equipment. Your environmental chamber or thermal processing oven is a complex piece of machinery and needs to be cared for with TLC to maximize performance and prevent downtime. One of the most proactive measures that you can take for your equipment is to schedule a Preventative Maintenance check.

The experienced TPS technicians have put together a PM program specifically for your equipment. This program includes systematic inspections, adjustments, lubrication, and replacement of components, as well as performance testing and analysis. TPS will check all installed safety options to ensure proper functionality. A proper and timely inspection can keep your equipment running for many years. TPS technicians are also able to perform PM checks on other brands of equipment, just ask our service personnel for details.

Some of the items covered in the TPS PM Inspection are:

- Mechanical
- HEPA Filter
- Electrical
- Instrumentation
- Operational
- Refrigeration System



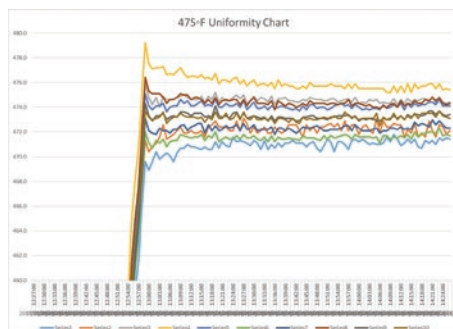
TPS recommends that once a year you have a preventative maintenance (PM) completed along with exhaust airflow measurements on Class A ovens. Exhausting airflow is crucial as Class A ovens are specifically designed for the volatiles that are being used in your oven. MSA monitors should also be done yearly at a minimum.



HEPA filters are long lead items. They are often sized specifically for our units. Maintaining proper stock levels are important to your operation. Why choose TPS?

- Original Equipment Manufacturer HEPA Filters
- Proper Installation

Having spare parts on hand as well as HEPA filters can reduce down time and lost product.



Uniformity - TPS can adjust your equipment for proper airflow balance and heat distribution, providing a tighter temperature tolerance. Consideration is given to air pressure (+ or -) in your building, which can impact uniformity. Out of tolerance conditions and adjustments needed will bring variation to the time needed to complete the work.

Parts Store Ordering Guide



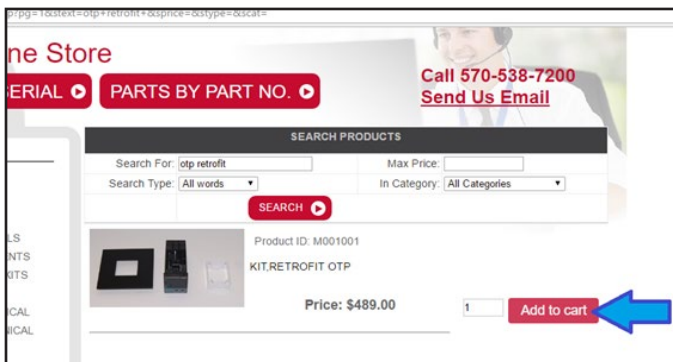
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Searching By Part Number or Description



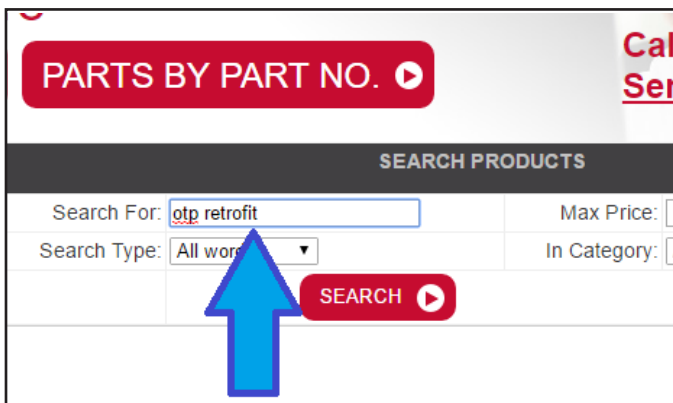
- 1) Visit <https://store.thermalproductsolutions.com/>
- 2) Click on parts by part number
- 3) Enter part number and click search
- 4) Add quantity needed and click add to cart

Searching By Unit Serial/Order Number



- 1) Visit <https://store.thermalproductsolutions.com/>
- 2) Click on parts by serial
- 3) Enter serial/order number and click search
*Some older serial numbers may not be available
- 4) Add quantity needed and click add to cart

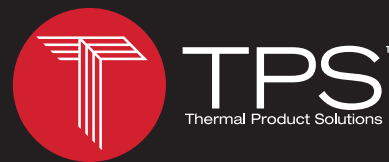
Searching By Category



- 1) Visit <https://store.thermalproductsolutions.com/>
- 2) Click on a category image
- 3) Narrow search results by putting keywords in the “search for” box and clicking search
- 4) Add quantity needed and click add to cart

Questions? Email: partswd@thermalproductsolutions.com Call: 570-538-7200 (click Option 3)

Equipment Calibrations



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TPS NIST Calibration Services

Thermal Product Solutions LLC (TPS) rounds out our total service packages with the ability to provide complete Calibration Services that include NIST Calibration Certificates.

ISO17025 Accreditation from A2LA

TPS is accredited with the American Association of Laboratory Accreditation for having demonstrated a technical competence for a defined scope and the operation of a laboratory quality management system. TPS's testing and calibration laboratory is accredited in accordance with the recognized international standard ISO/IEC 17025:2005 General Requirements for the competence of testing and calibration laboratories and also meets the requirements of ANSI/NCSLI Z540-1-1994 and any additional program requirements in the field of calibration. The accreditation provides customers of TPS with the confidence that the equipment calibrations they receive from TPS are accurate, audited, and maintained in a manner consistent with ISO standards.



Why choose an accredited calibration over a NIST traceable calibration?

Being NIST traceable simply means that the equipment being used to calibrate customer's equipment is traceable to NIST standards, but an A2LA accreditation means a bit more. A2LA is an accreditation body that accredits outside laboratories to numerous standards, specifically ISO 17020, 17043, 17065, and 17025. Thermal Product Solutions is accredited by A2LA to ISO 17025 standards which means not only is TPS equipment NIST traceable, but also the methods we use comply with ISO 17025 standards. Thus, an A2LA accreditation is always NIST traceable, but NIST traceable calibrations are not always A2LA certified calibrations. Customers can also rest assured that by having an A2LA accredited calibration they are receiving a product that has a fully implemented quality system that reviews every detail of every service performed.

A2LA Scope of Accreditation

A2LA Accreditation demonstrates an organization's competence to manage and perform the activities defined by its A2LA Scope of Accreditation (A2LA Certificate 3782.01). These activities include:

- **Generate:** 0-11V, 0-500Ω, 0-22mA, -200 to 250°C RTD (100Ω, Pt 385)
- **Sourcing Thermocouples:** Type T (-200 to 400°C), Type J (-100 to 800°C), and Type K (-100 to 1372°C)
- **Measure:** 10-95% Relative Humidity, -80 to 710°C
- Scope Can Be Expanded to Meet Customer Needs

ISO Standards

ISO/IEC 17025:2005 is the primary ISO standard used by testing and calibration laboratories to develop their management systems for quality, administrative operations, and technical operations. Laboratory customers, regulatory authorities, and accreditation bodies also rely on the standard to confirm or recognize a laboratory's competence in the accredited areas. It includes both management and technical specifications.

ABOUT A2LA

A2LA is the largest U.S.-based, multi-discipline accreditation body with over 35 years of experience providing internationally recognized accreditation services and quality training. A2LA's world-class accreditation services encompass testing and calibration laboratories, medical testing laboratories, inspection bodies, proficiency testing providers, reference material producers and product certification bodies. Organizations are accredited to international standards and field-specific requirements developed with government and industry collaboration. A2LA also offers a wide variety of both public and private on-site training programs to complement the various accreditation programs.

Rental & Refurbished Equipment



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The Rental & Refurbish Department at Thermal Product Solutions, LLC (TPS) offers a full line of equipment from all of our product lines to meet your rental and purchasing needs. Each refurbished unit is serviced by factory trained TPS Technicians with years of experience in the building and repairing of TPS equipment. We take a great deal of pride in the quality of our equipment and your satisfaction. Visit our website thermalproductsolutions.com/products/equipment.aspx to view our current inventory of equipment.



Rental Units

TPS has a selection of new and refurbished equipment available for rent. Renting equipment can be a cost effective alternative to buying a unit. Rental units are available for quick delivery and for a variety of time frames.

Refurbished Equipment

TPS offers a full line of high quality refurbished equipment. As a standard, all equipment receives a thorough inspection of the electrical system, and as applicable, a rebuild of the humidity generator, and an upgrade of the refrigeration system to environmentally friendly refrigerants. Windows, door gaskets and other sealing components are thoroughly inspected and replaced as required. All necessary upgrades, replacements and re-finishing of the equipment are completed by TPS factory trained technicians.

Unprecedented One-Year Warranty

Refurbish quality is ensured by testing to the original factory specifications and is backed with the best refurbish warranty in the industry. All refurbished equipment comes with an unprecedented one-year onsite warranty that covers both parts and labor (for standard TPS models). TPS is the only one in the industry to stand behind their refurbished equipment with such an extensive warranty. You can buy one of our refurbished units with the confidence that you are getting the same warranty as we offer on our new equipment. This is just another example of our commitment to be your one source for all of your thermal processing needs.

BlueM Touchscreen Upgrades Available



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BlueM Ovens With Watlow F4 and Watlow PM Single Set Point Controllers Can Upgrade to F4T Touchscreen Controllers



Blue M DC, DCC and DCI ovens that use either Watlow F4 or Watlow PM EZ-Zone single set point controllers can **NOW** upgrade to the Watlow F4T controller.

⑤	Data Logging and Graphic Trend Charts
A =	None
B =	Graphical trend chart
J =	Data logging
K =	Data logging with encrypted files
L =	Data logging with graphical trend chart
M =	Data logging with encrypted files and graphical trend chart

Please contact partswd@thermalproductsolutions.com for your formal quote today.

Must include model and serial number of chamber, billing address, and which data logging option (see above), if any.

****Some Exclusions Apply****

CEO Controller Upgrades



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Watlow 96 and 965 controllers are now obsolete. Lunaire/CEO Chambers can be upgraded to new Watlow EZ Zone controllers.

Kit includes:

- Both temp (not programmable) and humidity controls
- New electrical prints for installation
- Controller manual for the EZ Zone
- **Programmed for immediate use.**

There is a 2-3 week lead time to have kit completed.



TJR Controller Upgrade to new Watlow F4T

Any TJR with either Partlow 1462 or Watlow 942 can be upgraded to a new Watlow F4T Controller.

Kit includes:

- Electrical prints for wiring
- Controller manual
- **Programmed for immediate use.**

Some units may require additional relays or resistors and those would be included for the same price. There is a 1-2 week lead time to have kit completed.



Please contact partswd@thermalproductsolutions.com for your formal quote today. Must include model and serial number of chamber and company billing address.

****Some Exclusions Apply****



Parts. Service. Support.

The key to MAXIMIZE your investment

The TPS MAX Program allows the customer to pay ahead with funds to be used on multiple service items immediately. Services and parts can be charged against this prepaid fund. Enrollment also entitles the customer to other advantages listed below.

Enrollment into the TPS MAX Program can be initiated with a minimum purchase of \$5,000.00. Any amount above \$5,000.00 will be accepted. Funds do not expire.

10% Off Items:

- 10% Off Service Labor (Including: Training, Installation, Preventive Maintenance)
- 10% Off Travel Time
- 10% Off Calibration
- 10% Off Parts

The following items are also included with the Max Program:

- Free Ground Shipping on Parts
- No overtime charges will be billed for work or travel performed Monday through Friday
- Mileage is FREE
- Customers in our MaxProgram are protected against long wait times when their unit is down. Includes priority service on next available appointment.

YOUR FIELD
SERVICE SOLUTION.

All Makes.

All Models.

All Brands.

CONTACT INFO:

Tenney/Lunaire: Tenney.Service@tenney.com

Blue M: bluem.service@tpsovens.com

Gruenberg: gruenberg.service@tpsovens.com

Parts: partswd@thermalproductsolutions.com

»»Blue M »»Gruenberg »»Lindberg/MPH »»Lunaire
»»Redline Chambers »»Tenney »»Wisconsin Oven

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