

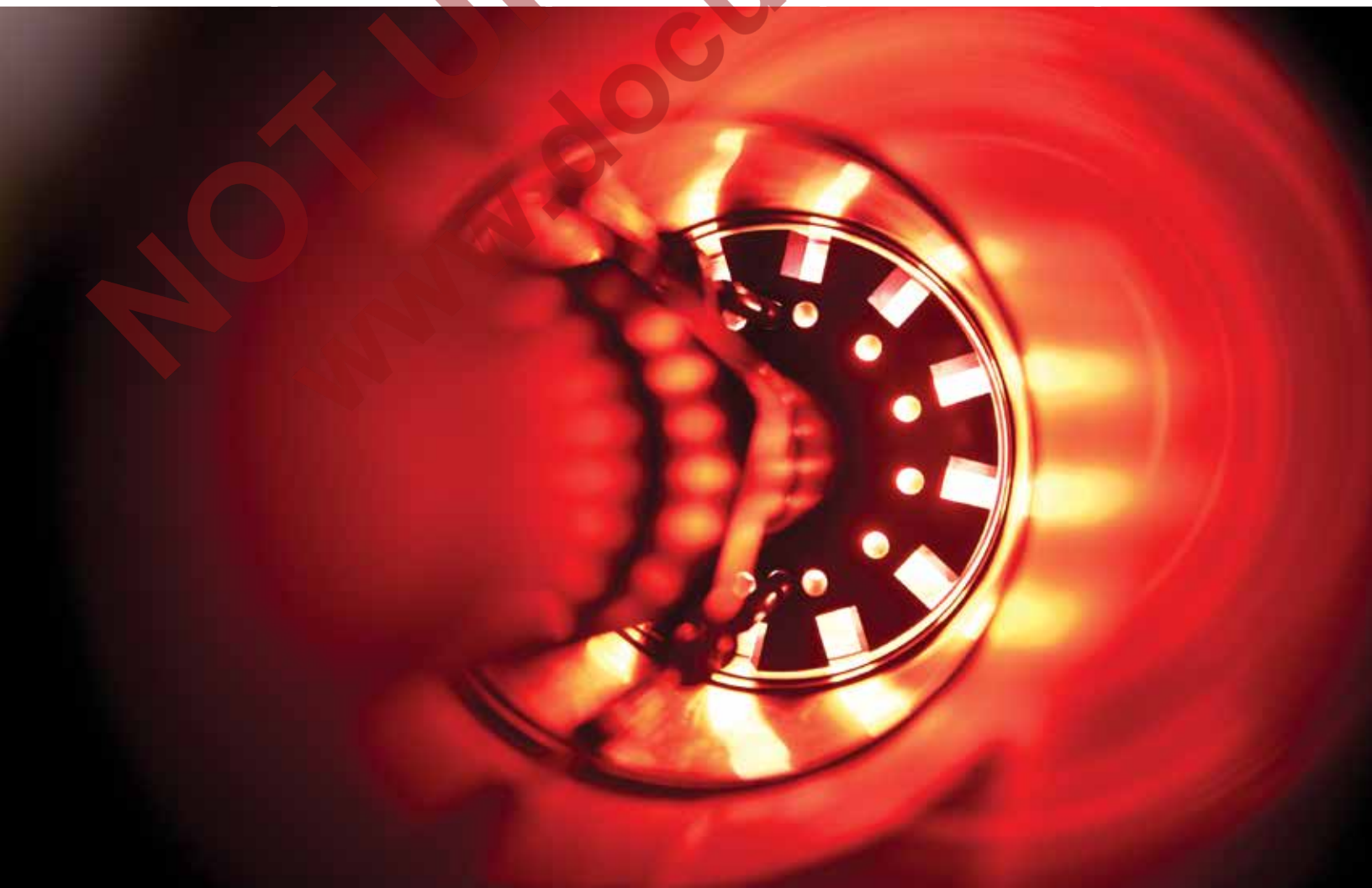
Honeywell

THE POWER OF **CONNECTED**

Honeywell Thermal Solutions

COMPREHENSIVE SOLUTIONS

for the most complex combustion applications.

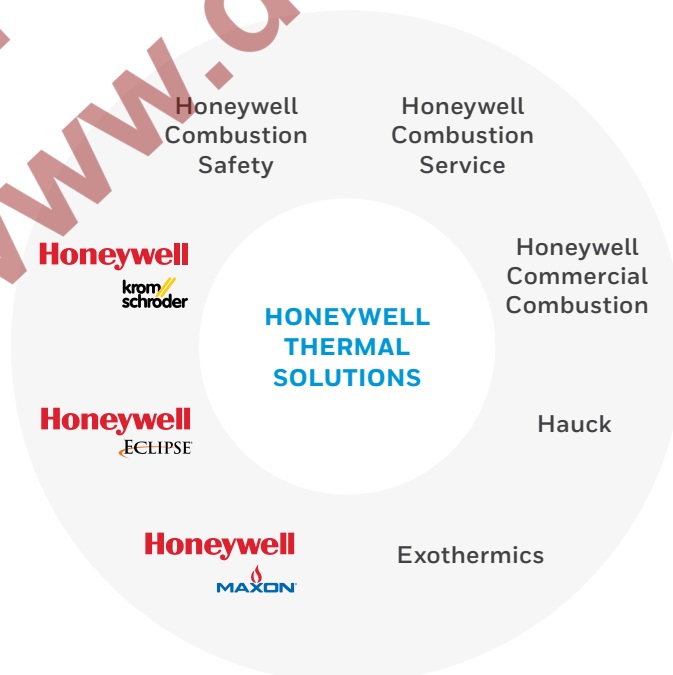


THE GLOBAL LEADER

in commercial and industrial combustion heating solutions.

At Honeywell, we help customers maximize the productivity and efficiency of their thermal systems by providing safer, more reliable, more energy efficient solutions for commercial to heavy industrial applications. With a strong track record of high-quality performance and proven application success, Honeywell Thermal Solutions helps ensure maximum productivity and uptime while reducing installation and maintenance costs.

Our portfolio is more robust than ever, and includes an extensive, versatile and innovative range of solutions based on decades of industry leadership and R&D investment. We're proud to feature some of the most well-known brands in the industry, including Honeywell Combustion Safety, Honeywell Combustion Service, Honeywell Commercial Combustion, Hauck, Exothermics, Honeywell Kromschroder and Honeywell Eclipse.



Unprecedented reach. Unparalleled impact.



In 2016, the paint on 15 million cars in China was dried with Honeywell Thermal Solutions equipment.



2 out of every 3 beers poured in Thailand come from bottles molded by Honeywell Thermal Solutions equipment.



90% of aircraft engines in Asia feature special alloys produced on Honeywell Thermal Solutions equipment.



Coffee roasters around the world depend on Honeywell Thermal Solutions burners for precision and consistency.

INNOVATIVE SOLUTIONS AND EXPERT SUPPORT TO HELP YOU ADDRESS KEY OBJECTIVES:



Increase productivity

The rise of low-cost production across a variety of industries is forcing companies to be more competitive – which means using people and processes more efficiently. Honeywell Thermal Solutions provides high-quality, highly reliable products that perform in the most demanding environments, plus smart systems that speed troubleshooting – helping to increase uptime and enhance output.



Optimize connectivity

Getting the right data to the right place is one challenge. Learning how to monitor, diagnose and act on that data is entirely another. Honeywell Thermal Solutions, together with Honeywell Process Solutions, can help seamlessly integrate process automation with thermal transfer – enabling greater data visibility and faster problem-solving across the enterprise.



Reduce emissions

Environmental regulations and corporate governance requirements continue to drive emissions reductions, forcing companies to reduce pollutants while also finding ways to stay competitive. Honeywell Thermal Solutions provides controls and burners that optimize fuel and air to produce the most energy with the least waste – helping you meet emissions standards without sacrificing productivity.

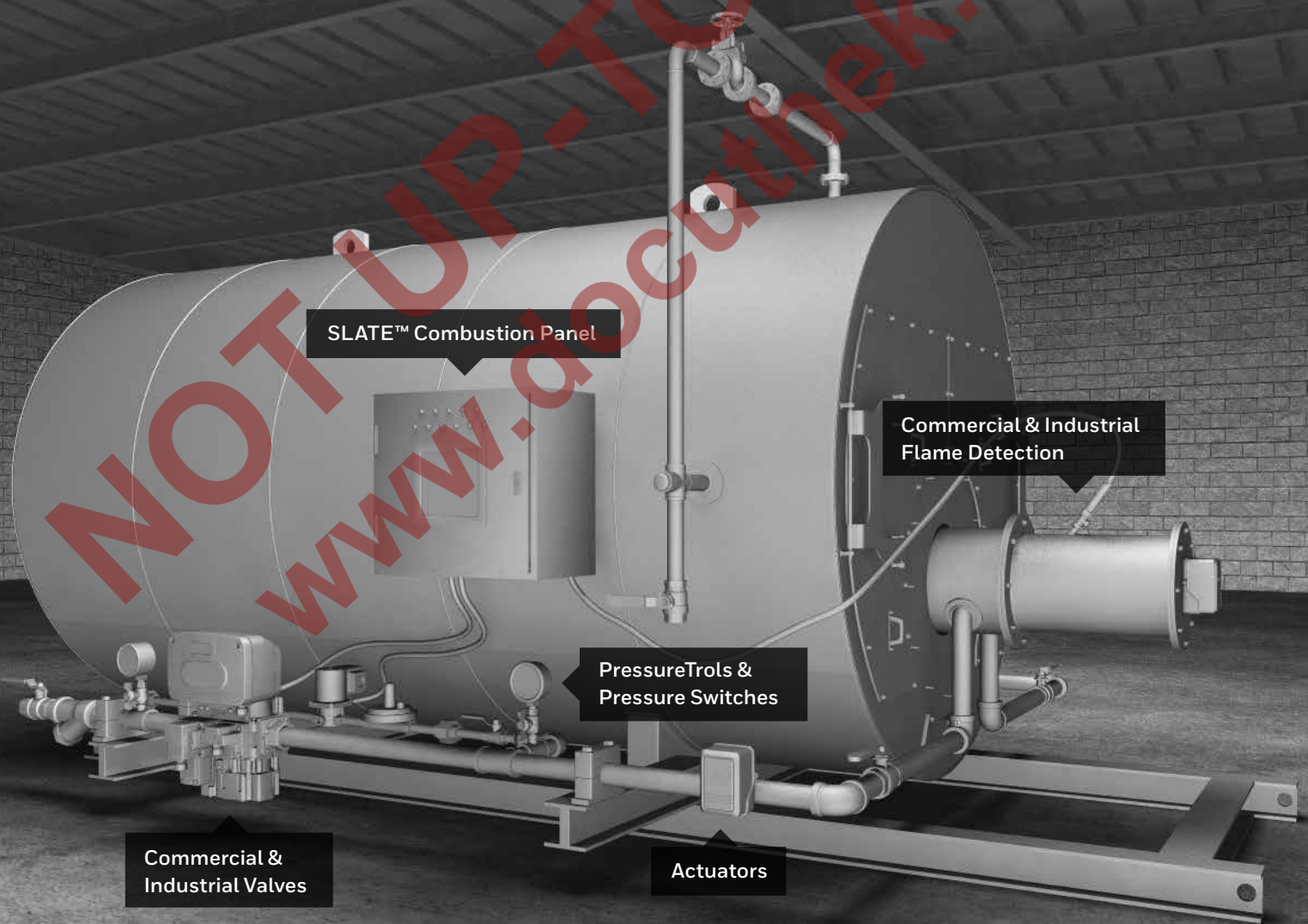


Enhance safety

Protecting people and equipment is a top priority for every company in every industry. Honeywell Thermal Solutions not only offers a variety of safety integrity level (SIL) 3 solutions, but we also provide a full suite of safety services that include testing and inspections, gas hazards management, field services, customized training and more – providing enhanced safety and efficiency.

ONE GLOBAL PARTNER FOR ANY COMBUSTION APPLICATION.

Featuring the most comprehensive portfolio of proven combustion solutions in the industry, Honeywell Thermal Solutions helps customers all over the world deliver heat efficiently, accurately and safely. We provide everything from products to engineered-to-order systems to post-install training and service for applications ranging from commercial to heavy industrial and everything in between – virtually anywhere you do business.



GLOBAL FOOTPRINT. LOCAL FOCUS.

Honeywell Thermal Solutions has the largest installed base of burners, valves, sensors and controls in the world. With more than 100 years of industry-leading innovation and on-the-ground experience, we provide global solutions aligned to specific regional requirements. Whatever you need wherever you need it – we're the partner you can trust.



SERVING MORE MARKETS IN MORE PLACES AROUND THE WORLD.

- | | | | |
|--------------|-------------------|-----------------------------|----------------------------|
| - Asphalt | - Commercial HVAC | - Minerals, metals & mining | - Refining & petrochemical |
| - Automotive | - Construction | - Oil & gas | - Textiles |
| - Ceramics | - Food & beverage | - Power generation | |
| - Chemicals | - Glass | - Pulp & paper | |



BURNER MANAGEMENT SYSTEMS

Burner management is the safe sequencing of burner fuel delivery, flame safety, fuel air ratio and limit operation.

Honeywell Thermal Solutions offers a broad range of process burner management control offerings and solutions – across a range of commercial and industrial applications. With a proven history of safety, performance and reliability, we leverage the latest forward-thinking technologies to solve virtually any customer need.



COMBUSTION CONTROLS



SLATE™ Integrated Combustion Management – The Honeywell SLATE Combustion Equipment Management System combines configurable safety with programmable logic all in one platform. It's fewer components, for less complexity. And with SLATE's application flexibility, universal I/O, global safety approvals that include SIL 3, and universal power supply, you can serve more global industries with one platform.



7800 SERIES – The 7800 SERIES is a microprocessor-based integrated burner control platform for single-burner applications. This platform includes a family of relay modules that provide burner sequencing for a wide variety of burners, and is SIL 3 capable.



BCU – The Kromschroder Burner Control Unit (BCU) is a burner control platform for single and multi-burner applications that can be programmed for a wide variety of applications, simplifying device engineering, installation and start-up.



SOLA – The SOLA boiler control platform is an integrated combustion platform providing heat control, flame supervision, circulation pump control, fan control, boiler control and electric ignition function. With up to 15 control functions in one compact device, SOLA helps reduce wiring, installation time and control count.



FUEL/AIR

SmartLink Actuators – Recognized globally for precision and accuracy, the SmartLink MRV is a parallel position fuel/air control system that uses a SmartLink CV actuator with a DIN-mounted device to modulate the flow of air and gas separately. It can manage up to four actuators at a time.

SmartFire & SmartLink Meter – The SmartFire and SmartLink Meter is a turnkey, mass flow fuel/air ratio control system for use with natural gas and oxygen-fired burners. It provides precise electronic control of air and fuel flow, and automatically compensates for changes in combustion or process conditions, helping to maximize efficiency and burner performance.

ControLinks – The ControLinks fuel/air ratio control system is a microprocessor-based control for full modulation, semi-automatic and automatic single-burner applications. It replaces traditional, inefficient single-point modulation, and can result in energy savings of two to six percent – if not more.

FLAME DETECTION

Honeywell provides a wide range of flame detection solutions for commercial and industrial applications, including a full line of self-check, standard and solid-state detectors for use with programmer and primary flame safeguard controls.



Flame rod



Infrared



Industrial flame monitoring (IFM)



Ultraviolet

PRESSURE CONTROLS & SWITCHES

Pressure and limit controls provide operating control with automatic or manual reset limit protection for pressure systems, and are used with steam, air, oil, noncombustible gases or non-corrosive fluids.



C6097 Pressure switch



L4079 High-pressure limit switch



DG/DL Pressure switches



THERMAL TRANSFER

Thermal transfer directs the application of heat in a variety of applications to facilitate the manufacturing of goods.

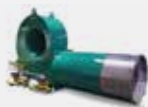
Honeywell Thermal Solutions offers the most comprehensive selection of burners and combustion systems in the industry. Our unique, sophisticated solutions provide efficient heat delivery while also meeting stringent low-emissions requirements. Every one of our burners is backed by a global team of combustion engineers to ensure your success, making Honeywell Thermal Solutions a smart choice that delivers value, reliability and performance for your thermal transfer needs.



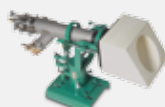
ThermJet



OVENPAK 400



MegaStar



BrightFire 200



Cross Fire



EcoMax

LINE BURNERS

Provide clean, reliable, uniform heat over a wide area to ensure the highest product quality and most efficient operation.

- AH-MA
- AirHeat V1
- AirHeat V2
- APX
- Combustifume
- Delta TE
- FlueFire
- HC Airflo
- InciniFume
- LV Airflo
- NPLE AIRFLO
- NP-RG AIRFLO
- RadMax
- RatioStar

LINE BURNERS – LOW EMISSION

Provide clean, reliable, uniform heat over a wide area while helping you meet the most stringent emissions regulations.

- Crossfire
- Linnox
- Minnox

SINGLE BURNERS

Designed for applications that typically require only one burner per chamber load, while offering robust, reliable heat in a variety of heating applications.

- Circular Incino-Pak
- Incini-Cone
- Kinedizer
- Megafire
- OVENPAK 400 & 500
- RatioAir
- RatioMatic
- ThermAir
- Vortometric

SINGLE BURNERS – LOW-EMISSION

Help you meet the most stringent emissions standards in a variety of industrial applications while maintaining robust, reliable performance.

- Kinedizer LE
- Mpakt
- Optima
- OVENPAK LE
- XPO
- Winnox

ASPHALT BURNERS

Designed specifically for the unique needs of the asphalt industry to ensure robust, reliable and clean operation in aggregate drying plants.

- EcoStar II
- MegaStar
- NovaStar
- StarJet

IMMERSION BURNERS

Designed to fire directly into tubes in immersion heating applications and deliver safe and reliable operation.

- ImmersoJet
- ImmersoPak
- Tube-O-Flame
- Tube-O-Therm

GLASS/OXY BURNERS

Designed to fire at required capacities and temperatures while meeting the most challenging emissions requirements in a variety of glass-melting furnace configurations.

- O3FA
- O4V
- BrightFire 200
- PrimeFire Forehearth
- GTCPA
- Oxy-Therm 300, FHR, LE & Titan
- PrimeFire 100, 300 & 400
- WGD
- WTPU & WTPUG

MULTI BURNERS

Designed for use in applications where multiple burners are needed for one zone or chamber, and to provide robust performance, low emissions and efficient operation.

- Furnnox
- Beta Burner (BBC/BBG)
- SVG
- BIC/BIO
- BICR
- Ecomax
- Single-Ended Radiant Tube (SER)
- ThermJet & ThermJet PCA
- ThermJet Self-Recuperative
- TriOx
- Tube Firing Burner with Bayonet Ultra Recuperator
- Uni-Rad
- Wall Hugger (WHG)
- Wall Hugger Invisiflame
- Wide-Range

BLOWERS/BOOSTERS

Provide the air pressure needed for optimal system performance while helping increase the pressure of any gas or air/gas mixture to meet application requirements.

- BoostPak
- Hermetic Booster
- SMJ Blower
- TBA Blower

HEAT EXCHANGERS

Provide improved process efficiency and fuel savings by recovering heat from a variety of industrial applications and feeding it back into the process.

- Cross Flow
- Dimple Plate
- ER Heater
- Extern-a-Therm
- RHT
- Sinusoidal Plate
- Tubular



FUEL DELIVERY

Fuel delivery is the accurate delivery of fuel at the optimal pressure, temperature and flow – within safe operating conditions.

Honeywell Thermal Solutions offers fuel delivery solutions for commercial and industrial applications, with a full valve portfolio that includes mechanical valves, safety shut-off valves and control valves, plus intelligent valves that deliver a distinctive competitive advantage. With a proven history of safety and performance, our comprehensive range of products and piping systems meet most global and regional requirements.





Diaphragm Gas Valves – Include the valve and actuator in single-body construction for use on boilers, unit heaters, duct furnaces, make-up air and rooftop heaters.



Gas Pressure Regulators – Regulate gas and air inlet pressure for gas burners, including mixed and combined systems and in industrial distribution systems. For all gas-consuming appliances.



Fluid Actuators – Provide manual reset and safety shut-off functions to control gas supply to commercial and industrial burners.



Safety Shut-off Valves – Double block valves that are used to control gaseous fuels in gas-fired power burners, atmospheric gas boilers, ovens, furnaces, incinerators, roof-top units, make-up air units and other gas-consuming appliances.



Combination Valves – Suitable for furnaces, ovens, atmospheric burners, commercial water heaters, roof-top make-up air units, power burners, and commercial and industrial boilers.



Safety Shut-off Valves – Designed for performance, reliability and durability, Maxon gas valves are the only fuel shut-off valves with metal-to-metal seats that wear in, not out. Plus, powerful closing springs provide assurance of safe fuel shut-off.



valVario – Featuring a compact design that helps reduce equipment footprint and component costs, valVario valves safely control the gas pressure in gas inlet and burner lines for high/low air control and cool-air operation on industrial burners.



Series 8000 & PSCHECK – The Series 8000 line of pneumatically actuated, linear-acting safety shut-off valves (SSOVs) stands up to the most demanding, hazardous-duty environments. When combined with the PSCHECK partial-stroke technology, Series 8000 valves can offer a SIL 3 capable system, and can determine the status of a SSOV without shutting down or interrupting combustion operations.



SOLUTIONS & SERVICE

Our solutions and service offering can help improve facility operations through on-site audits, complete engineered-to-order systems, and service and maintenance.

In addition to best-in-class products and systems, we also offer a full suite of services to help you and your customers create the best system solution for every combustion application need. Our engineers have deep technical know-how across more regions of the globe, enabling us to provide systems that are compliant with all codes and standards – so you can focus on your enterprise and confidently leave the rest to us.



HONEYWELL ENGINEERED TO ORDER

Our engineered-to-order service functions like an extension of your team, providing complete combustion solutions for new or existing applications in a wide range of commercial and industrial markets. We'll manage the project from start to finish, so you and your team can stay focused on delivering your company's core value proposition.

- Burners
- Valves and controls
- Combustion panels
- Heat exchangers
- Recuperators
- Flame safety systems
- Gas boosters and gas boosting systems
- Pre-wired and packaged, factory-tested systems
- ...and more



HONEYWELL COMBUSTION SAFETY

Honeywell Combustion Safety goes above and beyond the typical services offered by other equipment manufacturers, jurisdictional inspectors, property and risk engineers, and local contractors. As the largest independent fuel train safety testing company in the world, we offer the most comprehensive, consistent and disciplined combustion equipment inspection program in the industry.

- Testing and inspections
- Gas hazards management
- Field services
- Engineering
- Customized training

HONEYWELL COMBUSTION SERVICE

Critical equipment like burners, gas boosters and combustion safety equipment must perform reliably in every application, every day. Honeywell Combustion Service is the partner you can depend on to keep your equipment running safely and efficiently. Our combustion specialists have both broad and deep expertise in a variety of industries, from metals, automotive, asphalt and glass to food and beverage, pharmaceuticals and consumer products. We're your single source for all things service.

- Burner tuning
- Proactive and preventative maintenance programs
- Combustion equipment troubleshooting
- Start-up and commissioning
- Regulatory safety checks
- ...and more

Let's talk about how Honeywell Thermal Solutions can help

Contact your Honeywell Thermal Solutions sales engineer or email **HoneywellThermalSolutions@honeywell.com** for help finding the right product, specifying a solution or scheduling safety or service.

For more information

The Honeywell Thermal Solutions family of products includes Honeywell Combustion Safety, Honeywell Combustion Service, Eclipse, Exothermics, Hauck, Kromschröder and Maxon. To learn more about our products, visit ThermalSolutions.honeywell.com or contact your Honeywell Sales Engineer.

Honeywell Process Solutions

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