

# **HONEYWELL** **THERMAL SOLUTIONS** **COMPREHENSIVE** **SOLUTIONS**

For the most complex thermal process applications

**Honeywell**



UNPRECEDENTED REACH. UNPARALLELED IMPACT.



Each year, Honeywell Thermal Solutions equipment dries the paint on 15 million cars in China.



2 out of every 3 beer bottles poured in Thailand are made with glass melted by Honeywell Thermal Solutions equipment.



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

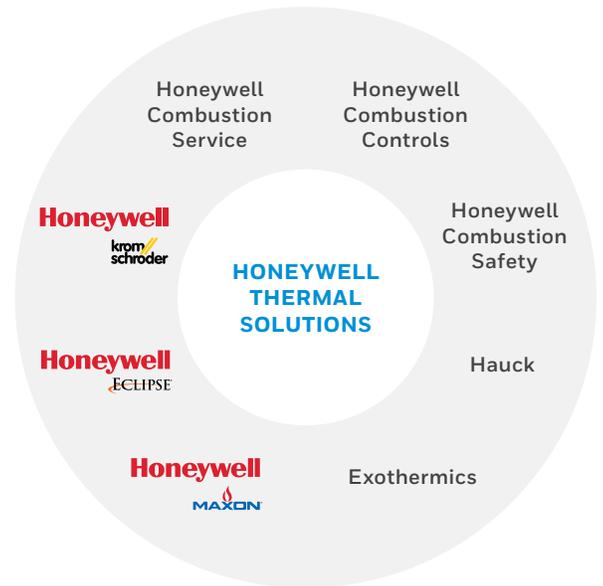


Coffee roasters around the world depend on Honeywell Thermal Solutions burners for precision and consistency.

# THE GLOBAL LEADER IN COMMERCIAL AND INDUSTRIAL THERMAL PROCESS SOLUTIONS

At Honeywell, we help customers maximize the productivity and efficiency of their thermal processes 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. Honeywell Thermal Solutions united the combustion industry's leading brands to provide the most extensive range of thermal solutions globally: Honeywell Combustion Controls, Honeywell Combustion Safety, Honeywell Combustion Service, Eclipse, Exothermics, Hauck, Kromschroder and Maxon.



## INCREASE PRODUCTIVITY

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



## GET CONNECTED

Honeywell Thermal Solutions is here to help with the best technology to keep your instruments, processes and plants running in any situation. You can efficiently handle your business remotely while working from anywhere. HTS offers cyber-secure solutions that transform thermal process data into real-time actionable information available anytime, anywhere, on any smart device or desktop.



## REDUCE EMISSIONS

Environmental regulations and corporate governance requirements continue to drive emissions reductions, requiring 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 3 solutions (SIL 3), 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 THERMAL PROCESS APPLICATION

Featuring the industry's most comprehensive portfolio of proven thermal process solutions, Honeywell Thermal Solutions helps customers all over the world deliver heat efficiently, accurately and safely. We provide everything from products and 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:

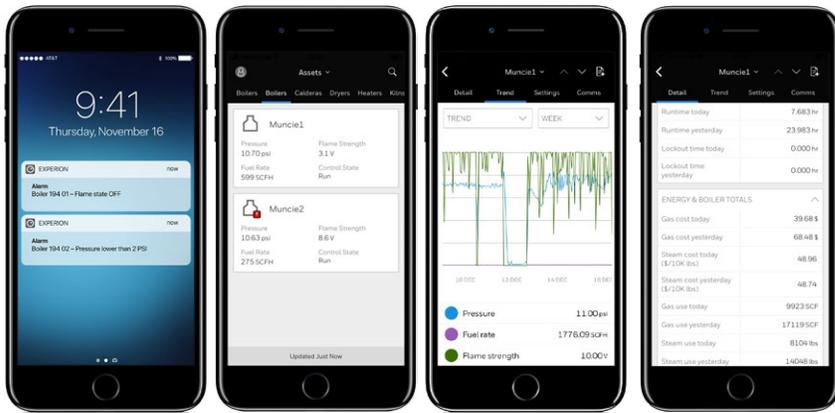
- Asphalt
- Automotive
- Ceramics
- Chemicals
- Commercial HVAC
- Construction Materials
- Food & Beverage
- Glass
- Minerals, Metals & Mining
- Oil & Gas
- Power Generation
- Printing & Coating
- Pulp & Paper
- Refining & Petrochemical
- Textiles



# CONNECTIVITY IS KEY

In a highly competitive global marketplace, industrial organizations increasingly seek digital intelligence to manage and operate hundreds or thousands of assets, from a single site or across an enterprise, to meet critical operating demands.

Honeywell has developed innovative connected solutions to address this development.

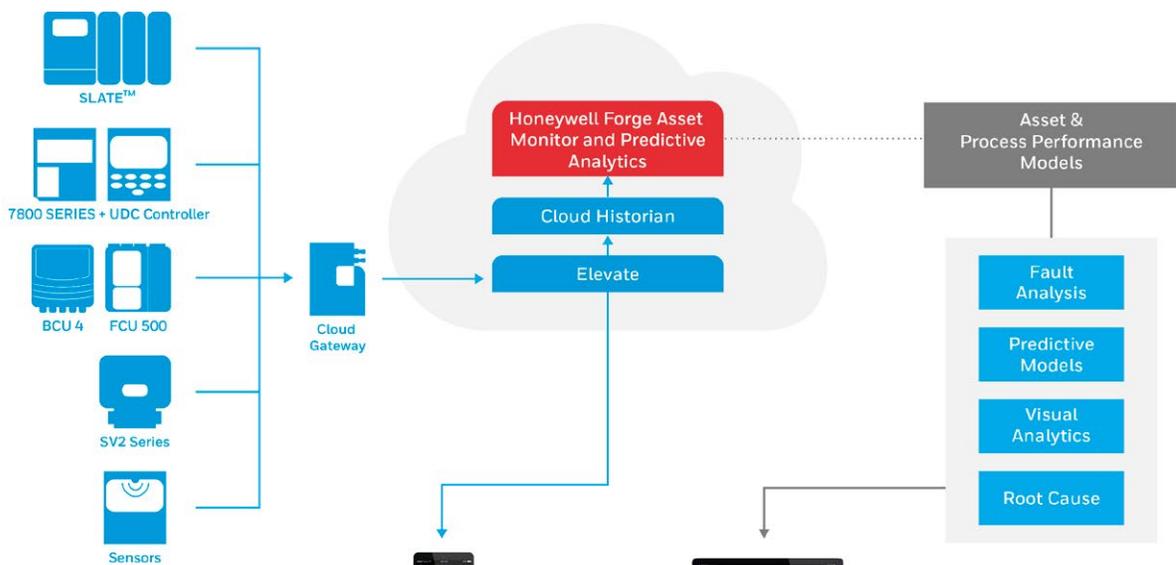


## THERMAL IQ™

**Overcome unpredictable situations and efficiently handle your business remotely, while working from anywhere.**

Consisting of wireless connectivity, a mobile application and an enterprise-view dashboard, the Thermal IQ platform securely connects combustion equipment to the cloud, making critical thermal process data that is normally trapped at the equipment level available anytime, anywhere, on any smart device or desktop.

With Thermal IQ data, users can see what is happening with thermal processes without being at their facility, get real-time alerts when key parameters are outside normal limits, track historical data over time to identify when and why something happened, and provide actionable recommendations.



### Thermal IQ™ Operate

An equipment and process level remote monitoring solution providing real time asset performance monitoring onto smart devices



Honeywell  
Experion app



### Thermal IQ™ Optimize

An enterprise level, desktop based remote monitoring solution providing real time analytics and fault modelling with early event detection



# 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 an extensive range of process burner management control offerings and solutions – across commercial and industrial applications. With a proven history of safety, performance and reliability, we leverage the latest forward-thinking technologies to meet 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 certifications 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.

### Burner Control Units (BCU)

The Kromschröder 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.

SLATE™ Integrated  
Combustion Management



7800 SERIES



BCU



SOLA



SLATE™ Low torque actuator and Fuel Air Ratio Control Module



SmartLink DS actuators



SmartFire, SmartLink Meter, SmartLink MRV

## FUEL/AIR RATIO CONTROL

### SLATE™ Low torque actuator

The SLATE Low Torque Actuator series includes commercial- and industrial-grade 1/4-turn actuators available in 50 and 150 in/lb models with highly repeatable position accuracy designed specifically to integrate with the SLATE system. This series is well suited for the precise control of air and gas flow and can operate in a wide range of temperatures and environmental conditions.

### SmartLink DS actuators

Recognized globally for precision and accuracy, the SmartLink DS is a certified safety controller used to control the flow of air, gas, and fluids with precision accuracy to 1/10 of a degree. It can be used with the SLATE system or with any PLC controlled system.

### SmartFire, SmartLink Meter, SmartLink MRV

The SmartLink MRV is a parallel position fuel/air control system while the SmartFire with the SmartLink Meter is a turnkey, mass flow fuel/air ratio control system for use with natural gas or oxygen fired burners. Both systems provide precise electronic control of air/fuel flow helping to maximize efficiency and burner performance.

## FLAME DETECTION

Honeywell provides a wide range of flame detection solutions for commercial and industrial applications. This full line of flame rod, UV, IR and combined UV/IR solid-state detection scanners, including self-check options, are used with programmer and primary flame safeguard controls.



Flame Rod



Infrared



Industrial Flame Monitoring (IFM)



C7027 Flame Sensor



C7061 Flame Sensor



UVC Flame Detector

## PRESSURETROLS & 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, non-combustible gases or non-corrosive fluids.



L4079 High-pressure Limit Switch



DG/DL Pressure Switches

# THERMAL TRANSFER



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

Honeywell Thermal Solutions offers the most comprehensive selection of burners and thermal process 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



CROSSFIRE®



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
- FlueFire
- HC AIRFLO
- LV AIRFLO
- NP-LE 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, while offering robust, reliable heat in a variety of heating applications.

- Incini-Cone
- Megafire HD
- 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
- M-Pakt
- 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.

- MegaStar
- NovaStar
- StarJet

## IMMERSION BURNERS

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

- ImmersoJet
- 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.

- 03FA
- 04V
- BrightFire 200
- PrimeFire FH
- 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.

- Beta Burner (BBC/BBG)
- BIC/BIO & BIC..M menox
- BICR
- ECOMAX® & ECOMAX® LE
- Furnnox
- Single-Ended Radiant Tube (SER)
- ThermJet & ThermJet PCA
- ThermJet Self-Recuperative
- TriOx
- Tube Firing Burner (TFB) 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/ INDIRECT HEATERS

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

Includes 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.

## Light Duty 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.

## SV2 Series Intelligent Safety Shut-off Valve

An industry's first! The embedded intelligence helps increase productivity, improve energy efficiency and better manage compliance: All-in-One functionality, premix features, 3-in-1 pressure module, embedded communication BUS, and an intuitive HMI which speeds troubleshooting and service.

## Heavy Duty 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 & Maxon 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 partial-stroke technology, the Maxon PSCheck™ and Series 8000 Valve are both SIL 2 compliant, and when combined as a fully Safety Instrumented System (SIS), a SIL 3 certification is possible. It can determine the status of a SSOV without shutting down or interrupting combustion operations.



SV2 Series Intelligent Safety Shut-off Valves



Diaphragm Gas Valves



Gas Pressure Regulators



Fluid Actuators



Combination Valves



Light Duty Safety Shut-off Valves



Heavy Duty Safety Shut-off Valves



valVario



Series 8000 & PSCHECK

# SOLUTIONS & SERVICE



Our solutions and service offering helps 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, Honeywell Thermal Solutions offers 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, 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 COMBUSTION SAFETY

Honeywell Combustion Safety is 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. Our mission also includes helping clients increase the efficiency and reliability of combustion equipment.

## 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.

Global Services:

- Code-based testing and inspections
- Engineering / system upgrades
- Customized training
- Gas hazards management
- Field services

Single Source:

- HTS factory-trained field product support
- Proactive & preventative maintenance
- Burner set-up & performance tuning
- Start-up & commissioning
- Combustion system troubleshooting
- General & customized combustion training
- Regulatory safety checks

## COMPLETE COMBUSTION SOLUTIONS (CCS)

End-to-end solutions and services to meet your thermal process requirements. The CCS offering includes thermal process systems and expert services, all incorporated in a complete turnkey solution, from start to commissioning and beyond, while ensuring compliance with local codes and standards.



# LET'S TALK ABOUT HOW HONEYWELL THERMAL SOLUTIONS CAN HELP

Contact your Honeywell Thermal Solutions sales engineer or email [HoneywellThermalSolutions@honeywell.com](mailto: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 Controls, Honeywell Combustion Safety, Honeywell Combustion Service, Eclipse, Exothermics, Hauck, Kromschroder and Maxon.

To learn more about our solutions and services, visit [ThermalSolutions.Honeywell.com](http://ThermalSolutions.Honeywell.com) or contact your Honeywell Sales Engineer.

## Honeywell Process Solutions

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THE  
FUTURE  
IS  
WHAT  
WE  
MAKE IT

**Honeywell**