

COMBUSTION CONTROLS, SYSTEMS AND SOLUTIONS

Automated and integrated solutions
for burner applications



Honeywell

CHALLENGES IN BURNER APPLICATIONS

Burner operations and control are crucial for any industrial combustion process. The application must optimize burner performance to minimize pollutant emissions. Common challenges include:



EMISSIONS COMPLIANCE

Plants need to ensure that their burners operate within permissible limits for pollutants such as nitrogen oxides, carbon monoxide and particulate matter. Achieving emissions compliance requires the use of advanced combustion control strategies or additional emissions control technologies.



BURNER EFFICIENCY AND ENERGY CONSUMPTION

Achieving optimal fuel efficiency and minimizing energy consumption is a key challenge for industrial burner systems. Plants may struggle to fine tune their burner operation to ensure efficient combustion, maintain the desired temperature and minimize fuel wastage.



REPORTING

Reporting requires collecting, tallying, and harmonizing emissions values from various databases. This can involve a complicated process of data calculation from innumerable measurement points to provide the necessary information plant- and sustainability managers as well as process engineers need to provide proactive insight on emissions losses.



SAFETY COMPLIANCE

Burner operations must adhere to safety standards and regulations to protect personnel and the environment. Ensuring proper safety interlocks, flame monitoring and emergency shutdown procedures can be challenging and require careful design, implementation, and regular maintenance.



UPGRADES AND RETROFITS

A company may need to retrofit existing burner systems to meet changing production requirements, environmental regulations, or efficiency targets. Compatibility with existing infrastructure, equipment modifications and ensuring proper integration with control systems are common challenges in burner upgrades.



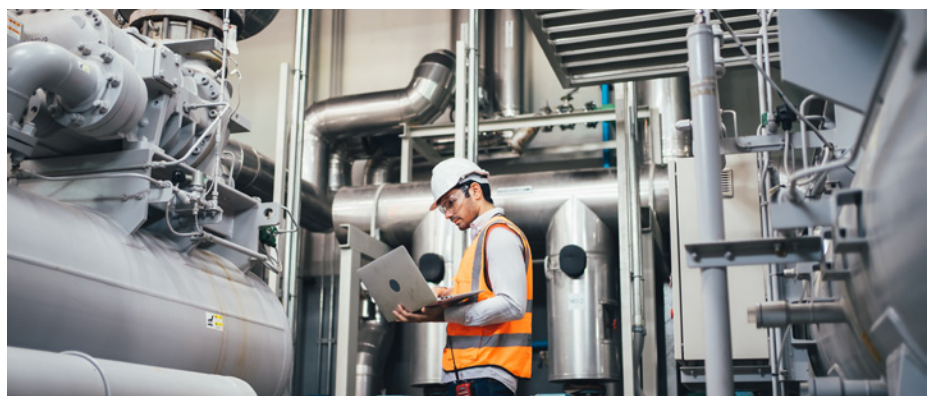
SYSTEM INTEGRATION AND AUTOMATION

Integrating industrial burner control and safety systems with the overall process control systems of a plant to ensure seamless communication can be a challenge because of compatibility issues, data exchange protocols and coordinating control strategies across multiple systems.



EXPERTISE AND TRAINING

Operating and maintaining industrial burner systems requires specialized knowledge and expertise. Lack of knowledge or training can lead to improper operation, ineffective combustion, safety hazards or non-compliance with regulations.



HOLISTIC APPROACH FOR BURNER APPLICATIONS

Overcome burner application challenges with our comprehensive solutions for burner and combustion management. As a one-stop shop in combustion control and reporting, Honeywell will help you to understand the environmental impact of your operations, enabling you to implement strategies for reducing emissions and minimizing your carbon footprint.



EMISSIONS COMPLIANCE

Combustion control systems help optimize burner performance to comply with regulations and minimize pollutant emissions, such as nitrogen oxides (NO_x), carbon monoxide (CO).

By accurately controlling combustion parameters, such as excess air levels and burner firing rates, these systems facilitate compliance with emissions standards.

Honeywell provides an advanced distributed control system and controllers for industrial automation, which features:

- Flexible and scalable design
- Standardization with less hardware
- Investment protection and easier maintenance
- Built-in cybersecurity
- Seamless support
- Reduced cost over the lifecycle

SAFETY COMPLIANCE

Ensure that your burner application complies with the latest industry regulations, with reliable hardware and software options that meet the safety requirements up to, and including, SIL3.

Honeywell offers a modular, fault-tolerant system capable of solving the most challenging burner management applications in the process industries that complies with the latest rules and regulations like NFPA 85, 86, 87 and IEC 61511, 61508.

BURNER EFFICIENCY AND ENERGY CONSUMPTION

Implementing advanced combustion optimization techniques helps achieve efficient fuel combustion and minimize scope 1 & 2 emissions, optimizing burner operation, and maintaining proper flame stability.

Consider upgrading to Honeywell low-NO_x burners designed specifically to reduce nitrogen oxide emissions.

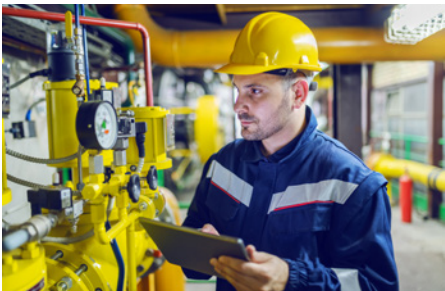
These burners employ various technologies such as staged combustion, fuel and air staging or internal flue gas recirculation to minimize the formation of NO_x during combustion.



UPGRADES AND RETROFITS

Proceeding with a burner application retrofit or upgrade requires careful planning and execution to ensure a smooth transition while maximizing benefits.

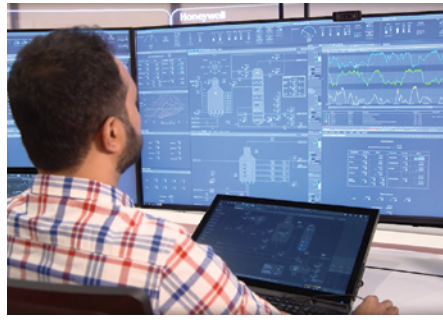
Honeywell burner and combustion solutions are designed to work with your existing infrastructure and provide proper integration with equipment, control and safety systems.



EXPERT SERVICE

Due to the intricate nature of burner applications, expert assistance is indispensable for ensuring operational safety, regulatory compliance, and overall productivity within industrial environments.

Honeywell burner application experts, with in-depth knowledge of combustion processes, safety standards and system dynamics, can help you design, implement, and maintain your burner and combustion systems with a high degree of precision.

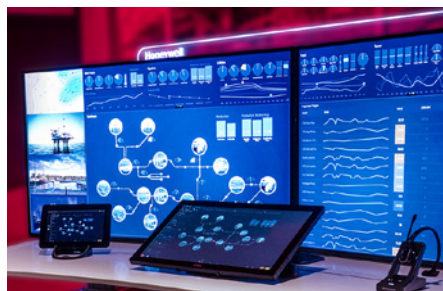


REPORTING

Employ an easy and accurate software-as-a-service (SaaS) solution to seamlessly gather and process combustion data. These detailed insights allow for operational clarity and more intelligent decision making.

Honeywell Forge Sustainability+ for Industrials | Emissions Management software supports your organization's decarbonization and sustainability journey.

Capable of integrating with planning, control, and asset performance software, along with edge monitoring devices, and processing equipment, this innovative technology enables and optimizes your organization's goals of reducing greenhouse gases.



SYSTEM INTEGRATION AND AUTOMATION

A seamless integration of the burner system with the overall process control system is essential for optimal performance and coordination.

Take the holistic approach for burner applications and let Honeywell help you build or upgrade your system to a modern integrated automation platform.



SUSTAINABILITY

Combustion control, emissions and reporting is part of the larger Honeywell End-To-End Emissions Management Suite, a comprehensive approach for moving towards carbon neutrality and bringing together a multitude of technologies to measure, monitor, report and reduce your footprint of greenhouse gas emissions.

Employ technology and automation at the sensor level to gather emissions data from your plant operations.

These systems provide real-time data on emissions, enabling you to optimize burner operation and control strategies for emissions reduction.

Monitor emissions using a centralized software that coordinates and simplifies workflow by orchestrating data from sensing sources, while calculating and aggregating near real-time emissions information to deliver transparency and status across the organization.

Once a baseline of emissions and energy usage is established, Honeywell can help identify which areas require improvement and which tactics will support your sustainability targets.



COMBUSTION CONTROLS, SYSTEMS AND SOLUTIONS FEATURES AND BENEFITS

- Continuous emissions monitoring
- Compliance with standards and regulations
- High-system availability utilizing 2oo4D hardware redundancy technology.
- Control medium- and high-capacity burners with a single or multiple burners
- Seamless integration of burner systems with other automation systems and solutions
- Centralized operation and observation of the firing process is supported by extensive and powerful communication interfaces and protocols.
- Forge Sustainability + and End-To-End Emissions Management
- Global reach and local support.

INDUSTRIES:

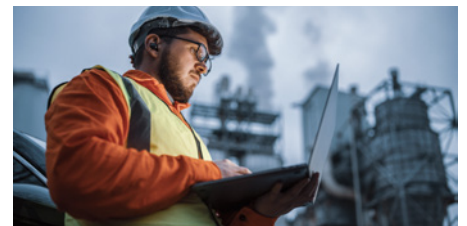
- NATURAL GAS PROCESSING
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OVENS AND FURNACES



BOILERS



THERMAL OXIDIZERS



PROCESS HEATERS



INCINERATORS



REACTORS AND MORE



For more information

For More Information

To learn more about Honeywell Burner Management Control and Reporting solutions, or other Honeywell services, please visit: process.honeywell.com or contact your Honeywell sales engineer.

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WHAT
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