



KATALCO PERFORMANCE high intensity ring burners

Johnson Matthey (JM) has developed a KATALCO™ PERFORMANCE high intensity ring burner for use in secondary reformers.

This improved design incorporates a large number of nozzles set into a single ring configuration. The design ensures rapid and efficient combustion. The air/fuel mixing volume is minimized and the flow pattern that results from the large number of small flames ensures an even process gas temperature profile at the top of the catalyst bed.

Technology benefits:

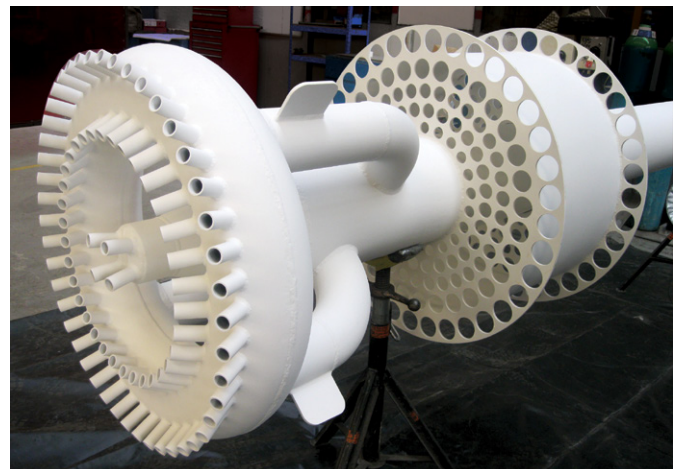
- Low pressure drop
- High turndown ratio
- High corrosion resistance
- Excellent mechanical integrity
- Optimum catalyst performance
- Easy installation and set-up
- Low methane slip

Achieved through:

- Bespoke design
- Multiple nozzles / flames
- Computational fluid dynamic (CFD) modelling
- Finite element analysis (FEA)
- Manufactured to ASME V and IX standards
- 100% radiography of all welding
- 100% non destructive testing (NDT)
- 100% positive material identification (PMI)

Recent design improvements:

- Metallurgy upgrades for improved life
- Distributor improved for easier install



High intensity ring burner



Burner after 6yrs of operating with no damage

Why choose a KATALCO PERFORMANCE high intensity ring burner?

JM has extensive experience and expertise relating not only to catalyst development, manufacture and use but also operation of large scale production facilities. Operating, maintaining and designing secondary reformers and the burners within them was integral to the improvements made to these units.

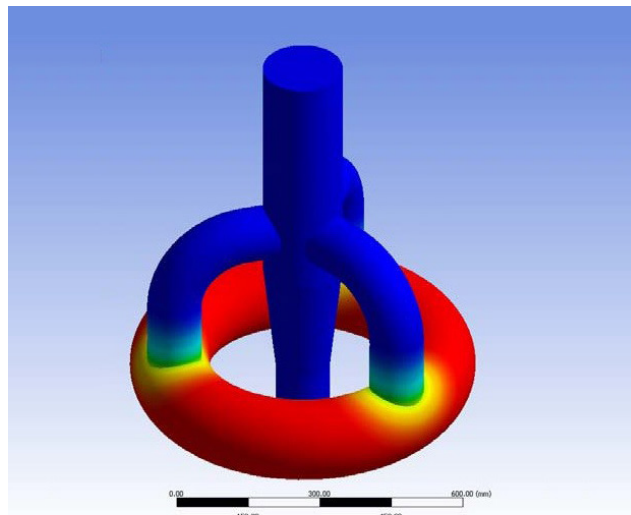
The design has developed and evolved as our operations, catalyst and mechanical reliability knowledge has improved. The result is a burner design that has been proven to be both efficient and reliable. The application of the burner is flexible with single and double ring options available depending on the size of the neck of the reformer. The design of each burner is optimized for each specific application and is therefore a bespoke, purpose built, high quality piece of precision engineering.

JM will provide

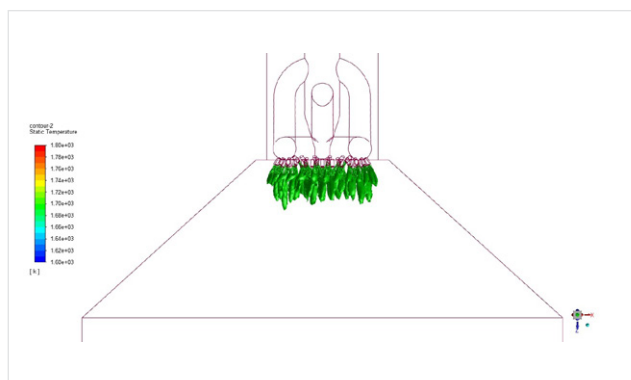
- A bespoke burner design based on specific plant configuration and operating parameters to give optimized performance and reliability in both retrofit or new plant applications
- A mechanical warranty
- Inspection services during equipment manufacture to monitor quality and schedule compliance
- A performance guarantee when combined with JM secondary reforming catalyst
- Commissioning services if requested
- Ongoing customer support to ensure continued optimum operation

JM deliverables also include

- Design basis document
- General arrangement and installation drawing
- Installation, operation and maintenance manual
- Quality assurance dossier



Finite element analysis image showing thermal gradients



Computational fluid dynamics image showing contours of 1700°K flame isotherm

Talk to JM today to find out how we can provide catalysts and technology to help you get the most out of your operations.

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For further information on Johnson Matthey, please contact your local sales representative or visit our website. KATALCO is a trademark of the Johnson Matthey group of companies