JM

Making more for longer

Maximising methanol production

Johnson Matthey
Inspiring science, enhancing life

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Our solution at a glance

The technology

High performance methanol catalysts, absorbents and process technologies to maximise yields and improve plant efficiency.

Value delivered

Johnson Matthey process technologies provide high reliability, low OPEX, fast pay back time, and the ability to meet sustainability targets. Johnson Matthey methanol catalysts and absorbents allow operators to process a range of feedstocks, extend turnaround cycles and prolong reformer tube life. All of this has been designed by our expert team of researchers to give you complete peace of mind.

As the world's leading methanol synthesis technology and catalyst supplier, we are passionate about methanol, and are proud to offer the most efficient and reliable solutions in the market. All our offerings are fully supported by our technical services team, who are here to ensure processes run smoothly and our customers are cared for on their methanol journey.

And as the world transitions to a net zero future, we are committed to reducing the impact of our technology on the planet. Our cutting-edge methanol solutions deliver the highest yields using the most sustainable process designs to date.

Unlocking methanol's potential

Methanol is an important material in chemical synthesis, used in many everyday products. It is also a clean-burning fuel. With the world looking to produce cleaner chemicals and seeking alternative fuel sources, the focus is well and truly on methanol.

With increasing global demands, it is important that methanol continues to be produced efficiently to high capacities and as sustainably as possible. Johnson Matthey is the world's leading methanol synthesis technology, and absorbent and catalyst supplier, and recognises methanol's potential with cutting-edge solutions designed to maximise your plant's performance and reduce operating costs.

A partner you can depend on

Johnson Matthey has been at the forefront of methanol technology (through ICI heritage) since it developed the modern Low Pressure Methanol Process in the 1960s and its **KATALCO**™ 51-series of methanol synthesis catalysts. All modern methanol plants are still based on this pioneering technology.

Today, Johnson Matthey is the #1 methanol synthesis technology and catalyst supplier. It is responsible for the biggest methanol synthesis loops in the world and has licensed more than 100 methanol plants and over 60 million tonnes per year of methanol production all over the globe.

Over the years, Johnson Matthey has enhanced its technology and catalysts, and is proud to offer the most efficient and reliable solutions in the market. Our goal is to drive profitability quickly and easily for our clients.

Solutions tailored to meet your needs

As a methanol producer, having an efficient and reliable plant is of paramount importance. With our best-in class solutions, you can achieve that exceptional performance using our proven technology. Our goal is to drive profitability for you and help you make more methanol for longer. With our portfolio of natural gas based processes, we will work with you to ensure you choose the solution best suited to your goals.

SWITCH METHANOL™ technology

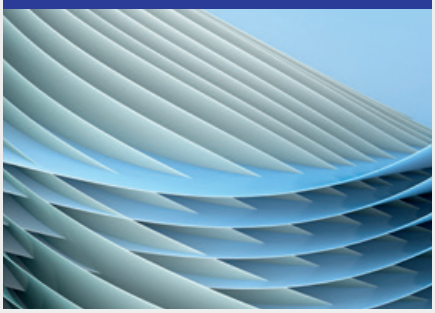
A fuelless reforming process which delivers minimal direct CO_2 emissions without carbon capture and is ready for electrification. It combines our unique gas heated reformer with an autothermal reformer (GHR+ATR).

PRECISION METHANOL™ technology

An elegant process, with world-class performance and reliability, which uses our "long-neck" autothermal reformer (ATR) and our superior quality methanol synthesis catalyst.

FLEXI METHANOL™ technology

A robust process which combines steam methane and autothermal reforming (SMR + ATR) to deliver consistently high performance for a wide range of natural gas compositions.



PRIMARY METHANOL™ technology

A well-established, oxygen-free process which is based on steam methane reforming (SMR) and can deliver large methanol capacities.

Methanol/ammonia co-production

A single process to make methanol and ammonia combining Johnson Matthey and KBR's market leading technology, achieving maximised efficiency and savings while delivering operational flexibility and world-class reliability.

With low carbon solutions a high priority, you can rely on us to deliver low emission products enabling you to meet your sustainability goals now.

Our next generation of sustainable methanol solutions, using alternative feedstocks such as biomass and waste, are designed to maximise production whilst minimising environmental impact.

CO_2 to methanol

Production of low carbon intensity methanol from CO_2 streams and H_2 generated by water electrolysis.

Biomass to methanol

Production of renewable methanol using synthesis gas obtained from the gasification of biomass or organic municipal waste.

Waste to methanol

Production of sustainable methanol using synthesis gas obtained from the chemical conversion of municipal and industrial waste that cannot be mechanically recycled.

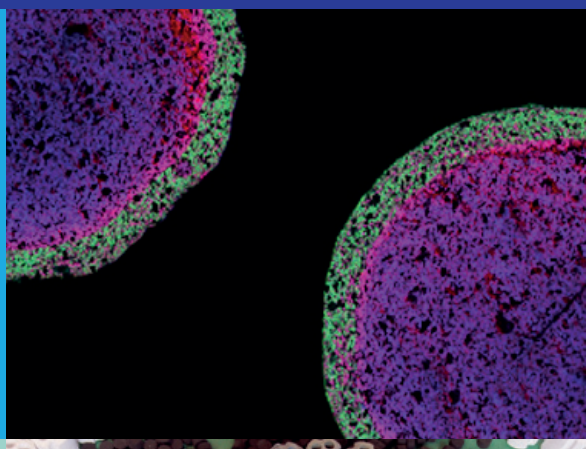
Unleash the power of our catalysts

Our methanol flowsheets are underpinned by our state-of-the-art **KATALCO** catalysts and absorbents, which are synonymous with enhanced process performance, reliability in service and long life.

The three key stages in the flowsheet are:

Feedstock purification

An effective feedstock purification system is an essential step in the production of methanol and the increasing use of alternative feedstocks bring new contaminant challenges. With a wide range of absorbents, we can ensure downstream catalysts and equipment are protected. This will prolong catalyst life and maximise your plant throughput and profitability.

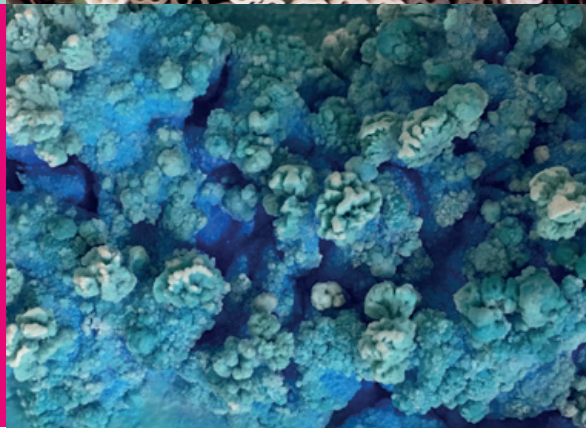


Reforming

Our well renowned **KATALCO** reformer catalysts allow you to process a wide range of feedstocks, extend turnaround cycles and prolong reformer tube life.

Methanol synthesis

Our **KATALCO** 51-series of methanol synthesis catalysts are pivotal to our methanol technology offerings. The **KATALCO** 51-series has been optimised over many decades to give increasing activity, selectivity, and stability. As the leading methanol catalyst supplier globally, our focus is delivering best in world performance for our customers.



Decarbonisation

Our low carbon solutions business is here to help you overcome the challenges in meeting your existing and future carbon emission reduction targets.

Our **CLEANPACE**™ technology suite provides innovative, tailored, solutions for the decarbonisation of synthesis gas plants.

CLEANPACE Methanol uses well proven technologies at scale to capture up to 97% of the process' direct CO_2 emissions. It requires lower CAPEX and space than post combustion capture and can be combined with capacity expansion to support increased methanol demand.

A commitment to excellence

Our technical services enable the best performance from your plant. The overall impact of Johnson Matthey catalysts and technology can improve methanol plant costs by millions of dollars every year.

Contact us for further information on our products and services for methanol production

Optimise your methanol production with **JM-LEVO**

Managing your plant operations and methanol production as conditions change can be a challenge. The JM-LEVO™ Methanol digital platform delivers insightful analytics based on JM expertise and advanced data modelling.

The **JM-LEVO** Methanol Portal provides you with the tools to efficiently monitor, adapt and optimise your processes in line with changing priorities and business equirements.

The portal brings nearly 60 years of experience of the methanol industry into a new digital solution, giving you direct access to the latest analysis and recommendations.

The Portal was built after listening to methanol producers and understanding the key challenges they face.

- Improve your understanding of your plant operation
- Achieve your targets such as increased production or improved efficiency
- Spend less time gathering and manipulating data
- Have more time with JM experts on focused, technical conversations
- Increase safety standards through early identification of developing issues
- Improve turnaround planning from better catalyst modelling.

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