

A grayscale background image of a complex molecular structure, featuring numerous spherical atoms connected by thin, metallic-looking rods, creating a network of interconnected geometric shapes.

OLEOCHEMICALS



JJ-Lurgi
Engineered for you



PIONEER IN OLEOCHEMICAL TECHNOLOGIES

About Us

JJ-Lurgi is regarded as a market leader in Asia in serving oleochemical producers with advanced technologies.

We design, engineer and manufacture the most reliable, efficient and cost-effective oleochemical plants and process units for production of fatty acid, glycerine, fatty alcohol, methyl esters and biodiesel production.

Our oleochemical portfolio is the culmination of decades of advanced Lurgi design and expert engineering of oil splitting, distillation and fractionation as well as batch and continuous hydrogenation.

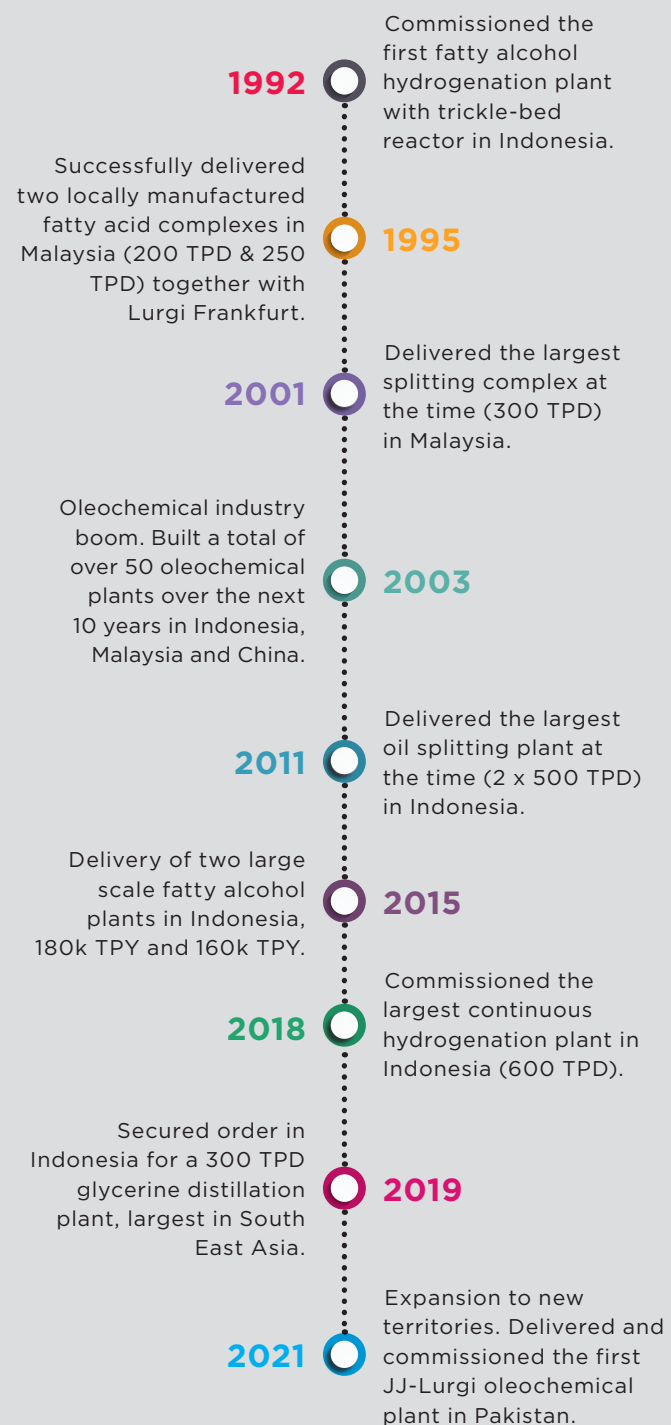
Fatty Acid Technology

- Oil Pretreatment
- Oil Splitting
- Fatty Acid Distillation & Fractionation
- Fatty Acid Hydrogenation (Batch/Continuous)
- Glycerine Water Pretreatment & Evaporation
- Glycerine Distillation & Bleaching
- Esterification
- Transesterification

Fatty Alcohol Technology

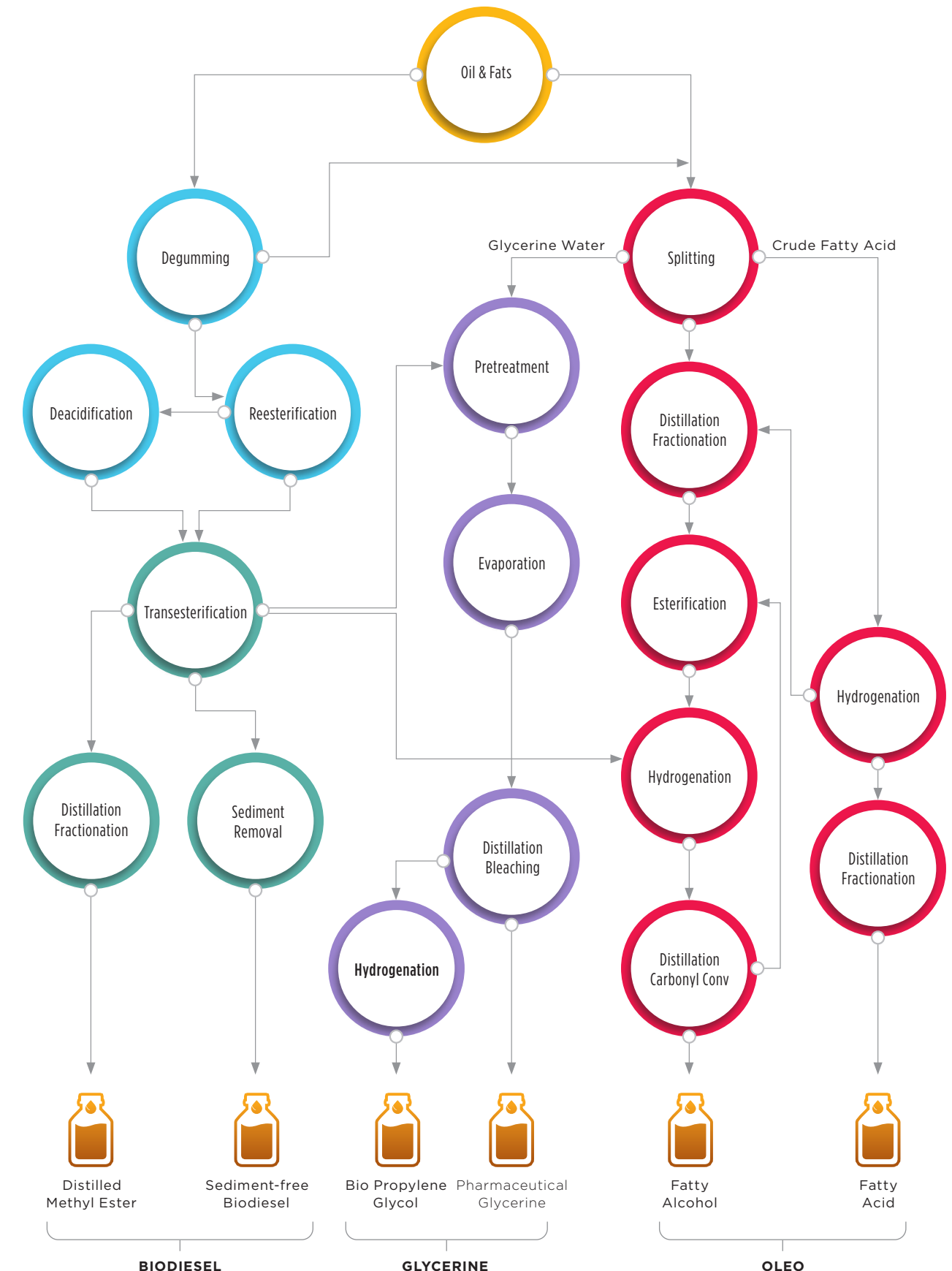
- Wax Ester Preparation & Hydrogenation
- Methyl Ester Hydrogenation
- Fatty Alcohol Refining
- Carbonyl Conversion

Our Oleochemical Journey



Covering Every Stage of Production

Our leading edge technologies provide complete system processing from natural oils to fatty acids, fatty alcohols and glycerine. JJ-Lurgi oleochemical technologies create value for the food, cosmetic, paint, detergent, surfactant and pharmaceutical industries through our comprehensive offering.





OIL SPLITTING

Our leadership in this area is based on decades of Lurgi advances in oleochemical science and engineering.

Our modern continuous oil splitting process offers excellent raw material yield and reduces residue. A splitting degree of up to 99% can be achieved at approximately 55 barg and 250°C in countercurrent flow pattern.

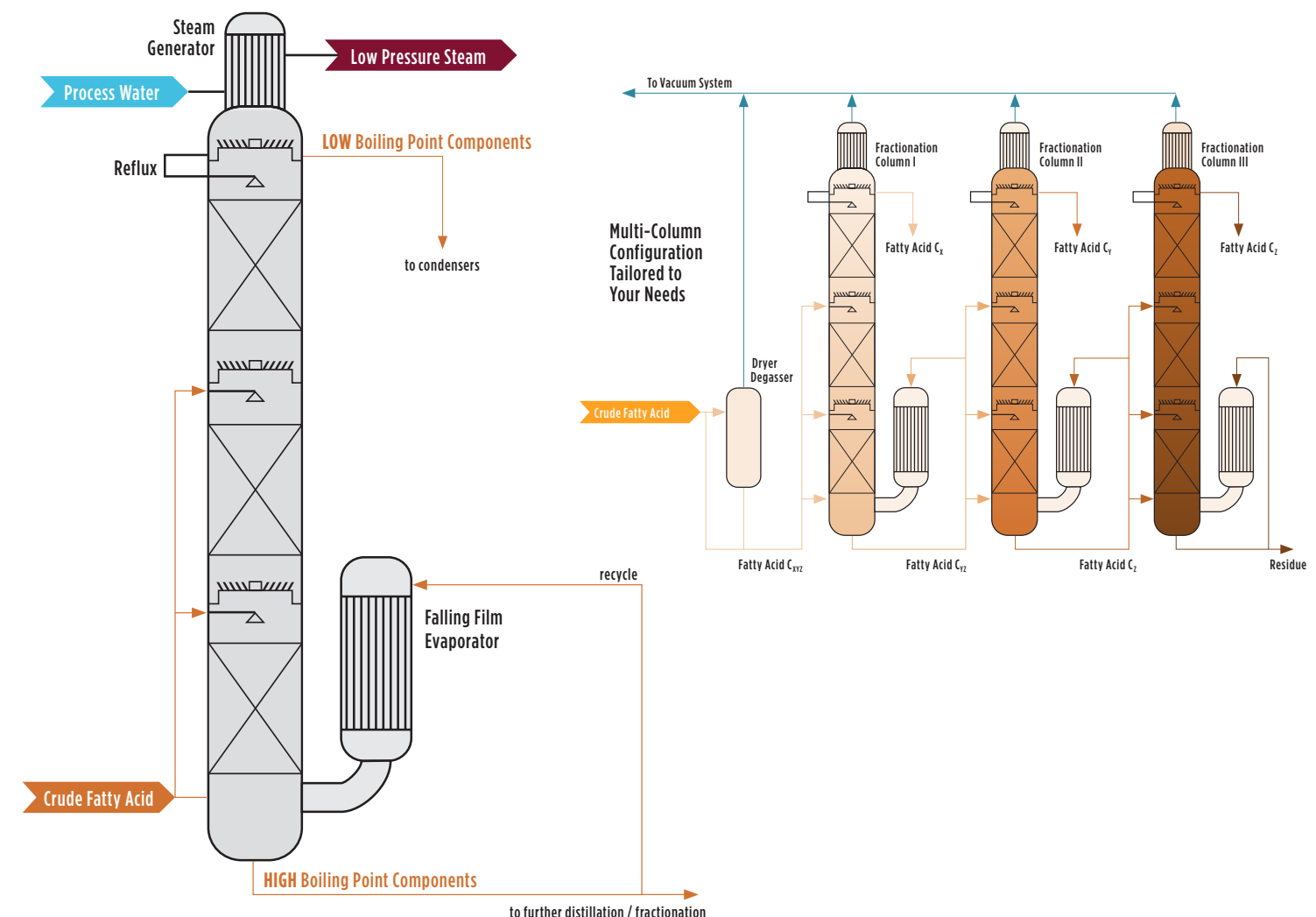
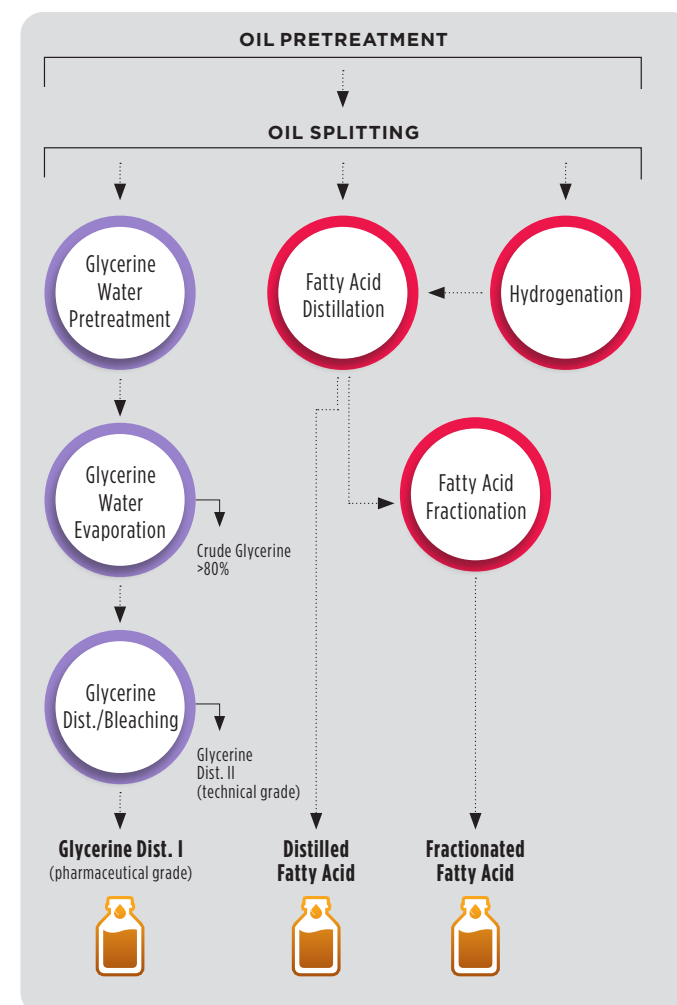
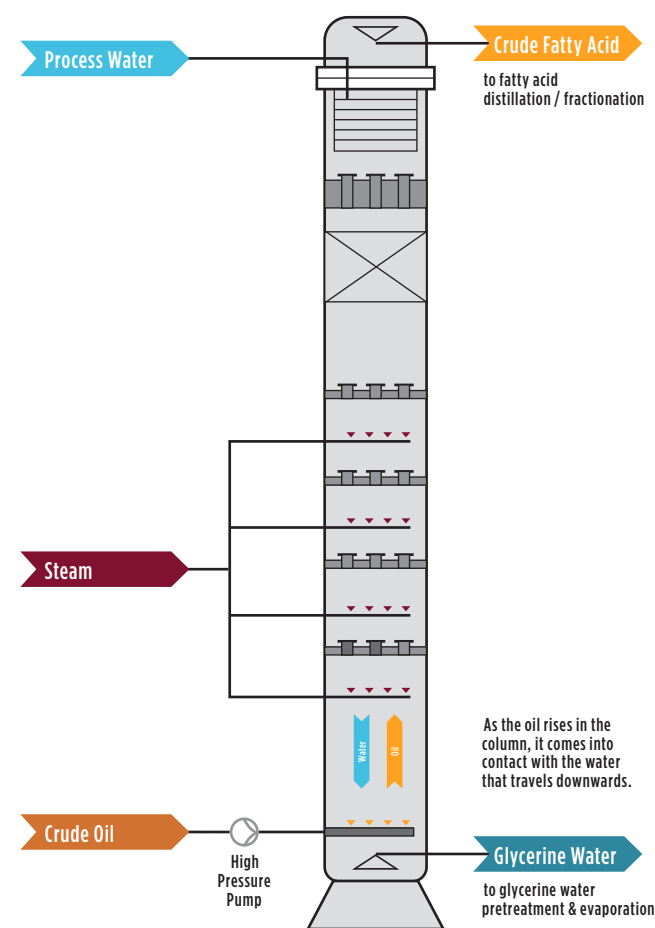
JJ-Lurgi plants are designed for maximum thermal efficiency. The use of economizers and recovery of steam generated by flashing of glycerine water reduce energy consumption, lower cost and improve the overall environmental footprint.



DISTILLATION AND FRACTIONATION

Our expertise in low vacuum processes allowed us to develop high performance and flexible distillation and fractionation technologies. These can be configured to ensure optimal production of tailored composites or pure fractions perfectly aligned with your needs.

Moderate heating, gentle evaporation of feed materials and product condensation with optimized heat recovery along with Lurgi's proprietary database and long years of simulation experience guarantee odourless, high quality end product and satisfy market demands.



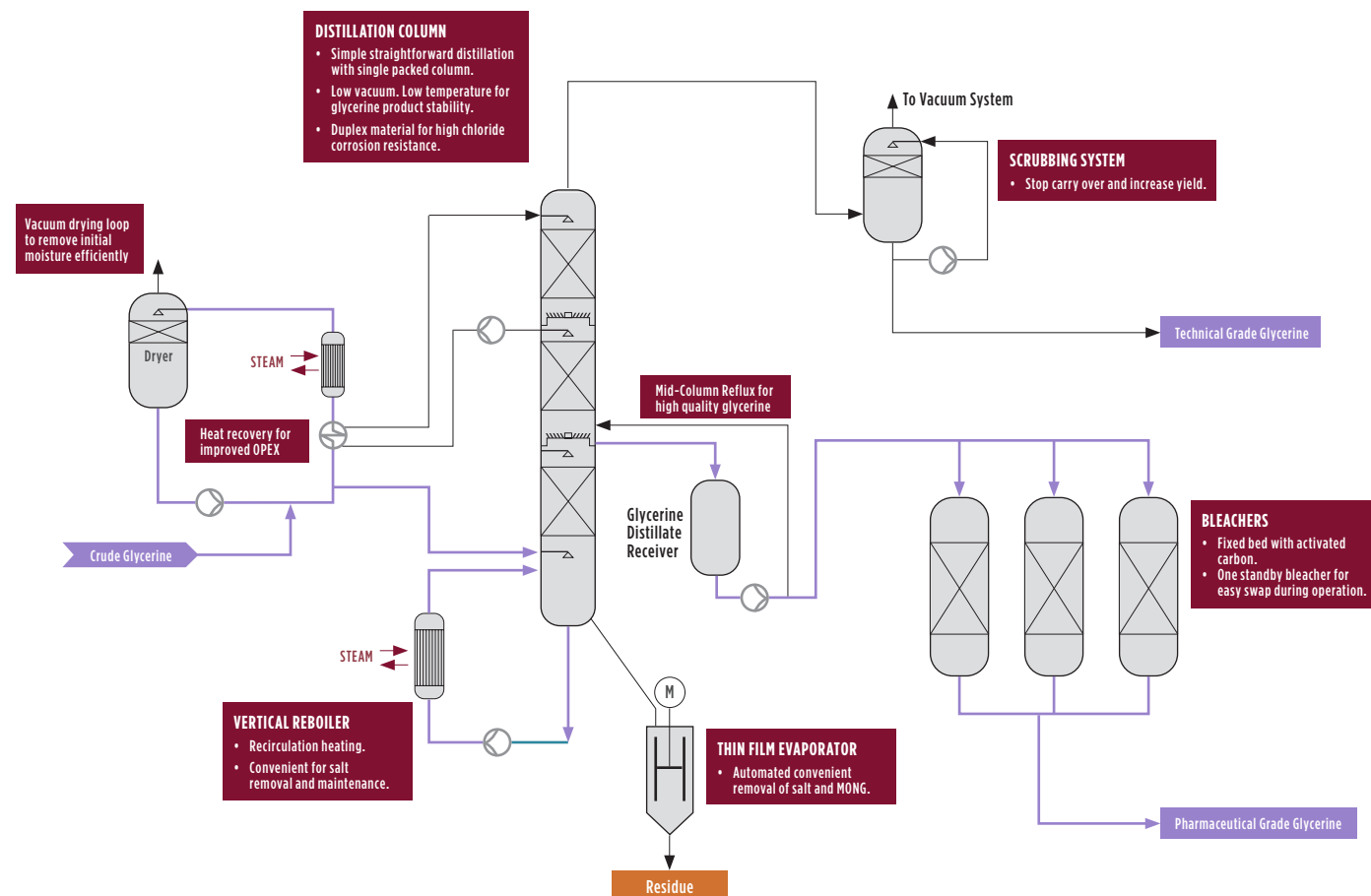


GLYCERINE WATER PRETREATMENT & EVAPORATION

JJ-Lurgi technologies optimize the recovery of glycerine from natural oils. Glycerine water from oil splitting or methyl ester (biodiesel) production is purified and fed to a continuous multi-stage evaporation unit to produce high quality crude glycerine, which can be easily distilled with optimized steam and chemical consumptions to lower operating cost and reduce environmental impact.

Glycerine Distillation & Bleaching

Our technology delivers superior pharmaceutical grade glycerine distillate. This is achieved as glycerine water is distilled and bleached over fixed bed activated carbon reactors. Natural or forced circulation evaporation systems, salt removal through decanter or thin-film evaporator and design advances in the distillation column allow for purity greater than 99.7% with low energy consumption cost and high yield. The glycerine distillate conforms to or exceeds international pharmaceutical quality control standards.



FATTY ACID HYDROGENATION

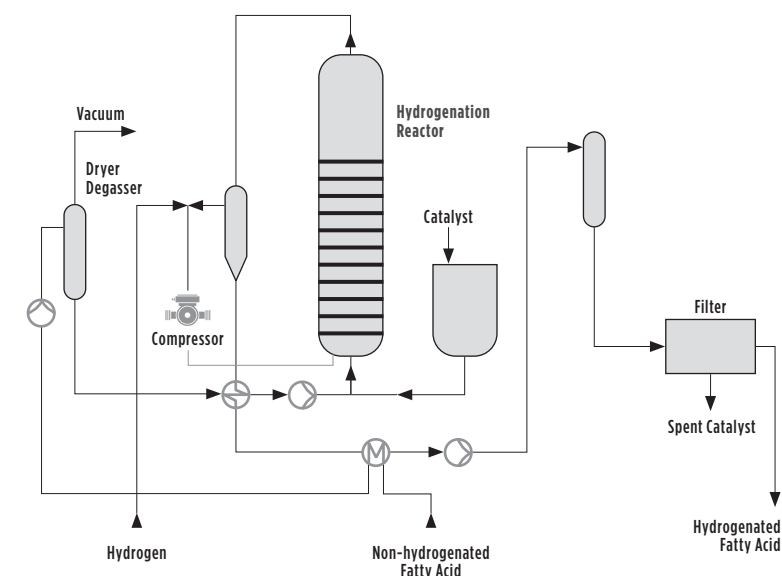
We offer two types of hydrogenation: continuous and batch.

Both hydrogenations systems achieve targeted saturation of the oleochemical feed. For fully hydrogenated products from larger streams of single type feedstocks, the continuous multi-stage plug flow reactor is recommended. Where multiple feed is used in smaller volume and variable degrees of hydrogenation, the highly efficient loop reactor system will be ideal.

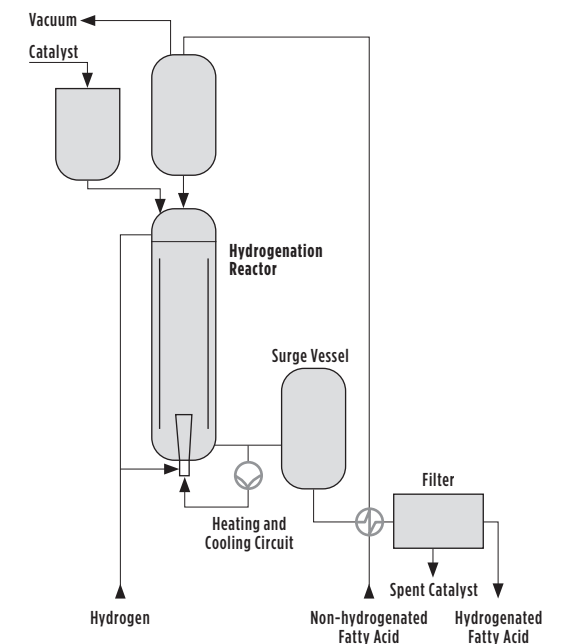
Our expert project teams will assess your current and project needs in terms of raw material, capacity, space and energy to deliver the right unit for your business.



Continuous Hydrogenation



Batch Hydrogenation



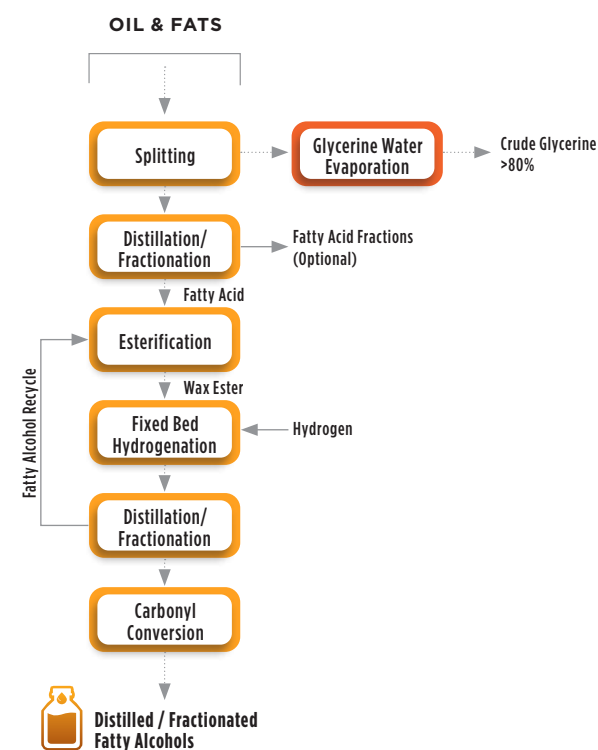


FATTY ALCOHOL

We have developed two advanced processes for converting oleochemical intermediates into fatty alcohols widely used in detergents and non-ionic surfactants.

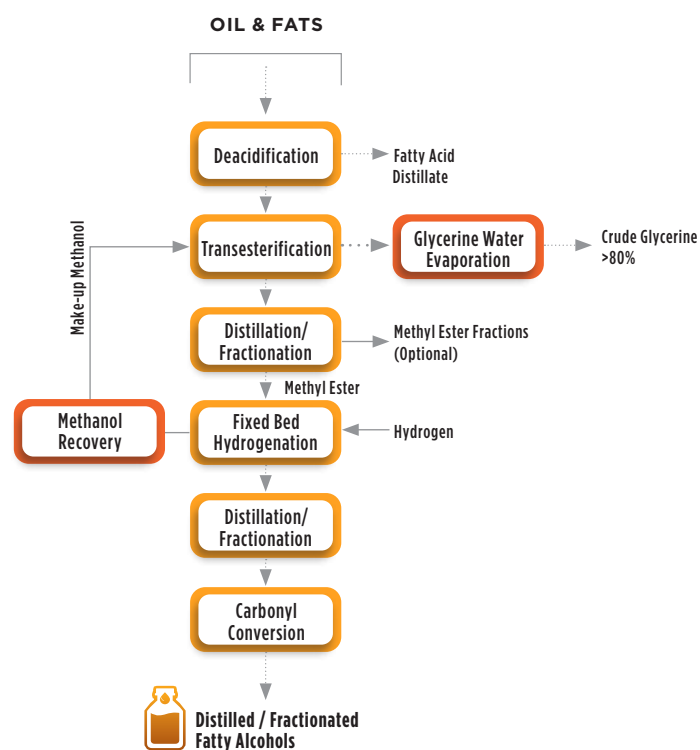
Wax Ester Route

Distilled fatty acids are esterified with a recycle stream of fatty alcohols without catalyst to wax esters and are then hydrogenated in single or double trickle-bed reactor over a copper catalyst to fatty alcohols. Our innovative LP3 Process allows for low operating pressure for reduced investment and operating costs.



Methyl Ester Route

Single or double trickle-bed reactor are also used in this process over a copper catalyst using the LP3 Process. The methanol derived from methyl ester during hydrogenation can be recycled upstream back to the transesterification process which then generates methyl esters feed.



Breakthrough Innovation

Our newly developed LP3 Process is highly innovative for production of fatty oil.

Low Pressure

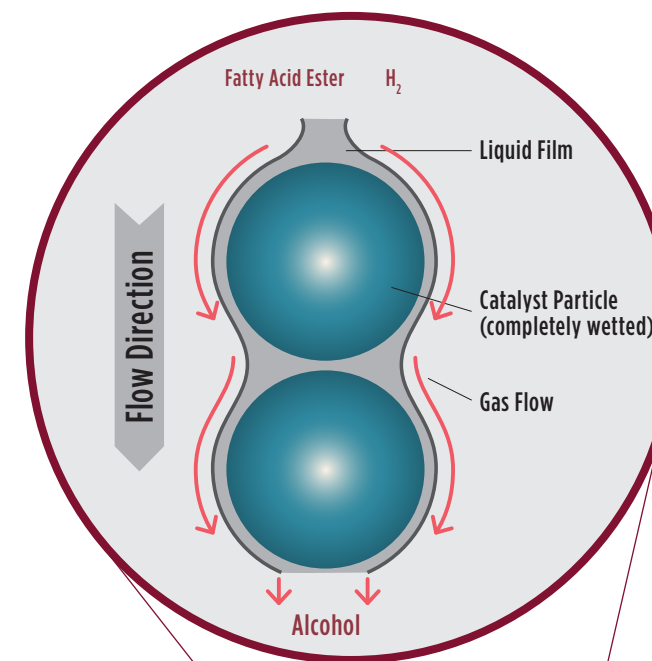
Performed at comparatively low pressure of 75 barg instead of 250 barg, this patented process reduces energy use and equipment design pressure, keeping total cost of ownership low.

Liquid Phase

LP3 keeps the feed stream in liquid state, facilitating trickle-bed conversion of feedstock in the reactors. This allows for production of long chain fatty alcohols and reduces creation of impurities.

Long Performance

A lead & lag double reactor system allows seamless catalysts switchovers allowing reactors to run continuously for extended periods. This facilitates improved and more efficient catalyst use, lowering costs and generating more profitable lifecycles.

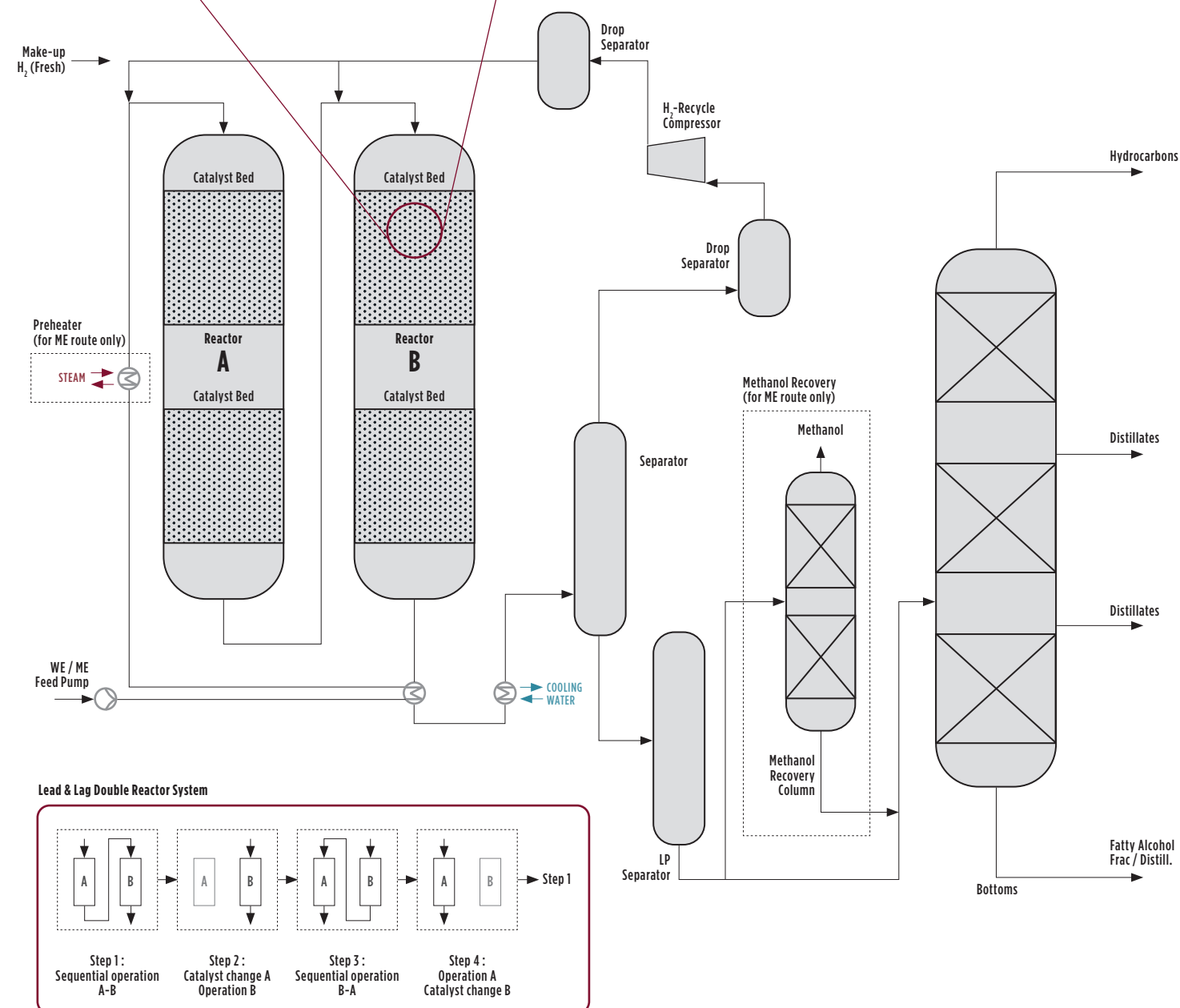


The **Trickle Bed Reactor** consists of fixed bed catalyst filling.

The liquid ester and the gaseous H₂ are entering the reactor in a two-phase flow. On the fixed bed catalyst surface, the ester and H₂ are flowing simultaneously downwards. The gas-liquid ratio and the velocity determine the film thickness on the catalyst surface, which is always wetted with a thin film of liquid. This enables the reaction between ester and hydrogen on the reactive zones at the catalyst surface.

The reaction takes place in the liquid phase with identical temperature settings for short-, middle- or long cut feed. This conveniently allows mixed cut esters to be hydrogenated at the same time.

The fatty alcohol as liquid reaction product flows downwards to the outlet of the reactor.



REFERENCE PROJECTS



Methyl Ester Fractionation Plant in Indonesia



Fatty Acid & Glycerine Plant in China



Oil Splitting & Glycerine Distillation Plant in Malaysia



Glycerine Distillation Plant in Thailand



Fatty Acid & Fatty Alcohol Complex in Indonesia

Benefits



- Advanced technologies
- Quality control
- Effective solutions



- Minimum waste
- Optimized energy consumption
- Maximal thermal efficiency
- Low environmental footprint



- On-time delivery
- Production maximization



Optimized plant design ensures minimum waste and reduces energy consumption

PROJECT LOCATIONS



ENGINEERED FOR YOU

OILSEEDS EXTRACTION

EDIBLE OILS

OLEOCHEMICALS

SPECIALTY FATS

BIODIESEL

OFFICES

MALAYSIA

Head Office &
Technology Centre

JJ-Lurgi Engineering Sdn Bhd

No. 7-13A-01 Level 13A
Jebsen & Jessen Tower
UOA Business Park (Tower 7)
Jalan Pengaturcara U1/51A
Seksyen U1, 40150 Shah Alam
Selangor Darul Ehsan, Malaysia
Tel : +603 5030 6363
Email : jj-lurgi_enquiry@jjsea.com

CHINA

Subsidiary Office

JJ-Lurgi Engineering

Equipment (Shanghai) Co Ltd
15B, Tongsheng Mansion
No. 458 Fushan Road, Pudong
200122 Shanghai, P.R. China
Tel : +86 21 6876 3818
Email : mike_tang@jjsea.com

INDONESIA

Subsidiary Office

PT JLLurgi

Engineering Indonesia
Graha Inti Fauzi, 7th Floor
JI Buncit Raya No. 22
Jakarta 12510, Indonesia
Tel : +62 21 2753 7132

INDIA

Subsidiary Office

JJLurgi Engineering India

Private Limited
B402, Nyati Empress,
Viman Nagar Road,
Viman Nagar, Pune,
411014 Maharashtra
Tel : +91 8308 436100
Email : bhavesh_pingle@jjsea.com

GERMANY

Subsidiary Office

JJ-Lurgi Engineering

Germany GmbH
Lurgiallee 10-12
60439 Frankfurt am Main
Tel : +49 69 9023 3031
Email : dirk_heinrich@jjsea.com

BRAZIL

Subsidiary Office

JJ-Lurgi Engineering Brazil Ltda

Av. Cambacicas,
520 - Parque Empresarial
Campinas - SP, CEP 13097-160,
Conjunto n° 500, bloco C
Tel : +55 19 99972 8877
Email : fernando_longo@jjsea.com

Representative Offices

Exa Renewable Co. Ltd Bangkok, Thailand Tel : +66 814427266

Barranco Enterprises Manila, Philippines Tel : +63 9062760573



A joint venture between Jebsen & Jessen (SEA) and Air Liquide Global E & C Solutions Germany GmbH
www.jj-lurgi.com | jj-lurgi_enquiry@jjsea.com