

JJ-Lurgi
Engineered for you



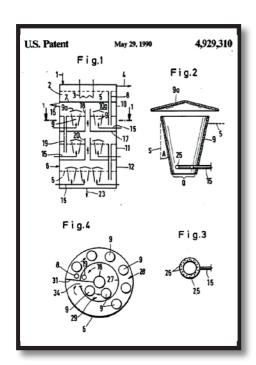
# EDIBLE OIL REFINING TECHNOLOGY

## JJ-Lurgi Engineering

JJ-Lurgi is a joint venture between Jebsen & Jessen and Lurgi Germany, headquartered in Malaysia. We are the key provider of technology for the oil & fats industry, supplying over 300 processing plants in our 30 year history.



Lurgi's advertisement, circa 1930s -High Vacuum Fatty Acid Distillation for Edible Oils and Fatty Acid



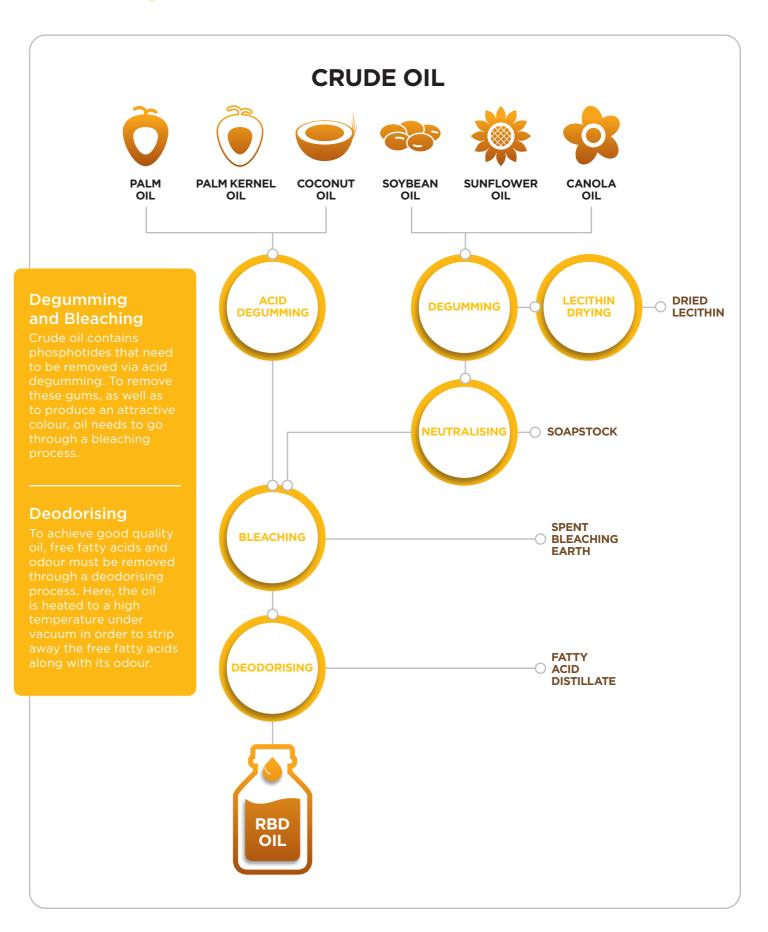
Lurgi's patent for the Mammoth Pump Deodorising Column

# Our Experience

The first generation refineries were built by Lurgi since the early 1900s across Europe and the United States. In 1990, the mammoth pump deodorising column design was patented by Lurgi. We deliver state of the art technology backed by over a 100 years of experience and to this date JJ-Lurgi has supplied the world's largest single edible oil refinery at 3500 tons per day.

United States Patent [19] Saft			[11] [45]	Patent Number: Date of Patent:	4,929,310 May 29, 1990
[54]	APPARATUS FOR DEODORIZING ORGANIC LIQUIDS		[56] References Cited U.S. PATENT DOCUMENTS		
[75]	Inventor:	Helmut Saft, Friedberg, Fed. Rep. of Germany	2,184,579 12/1939 Brucke 202/234 3,693,322 9/1972 Lineberry 202/234 4,036,865 7/1977 Hartmann et al. 203/92 4,483,747 11/1984 Aruga et al. 203/92		
[73]	Assignee:	Metallgesellschaft AG, Frankfurt am Main, Fed. Rep. of Germany	Primary Examiner—Joye L. Woodard Attorney, Agent, or Firm—Herbert Dubno		
			[57]	ABSTRACT	
[21]	Appl. No.: 344,650		The deodorizing apparatus is used to treat organic liq- uids, such as edible oils or edible fats, in that they are		
[22]	Filed:	Apr. 27, 1989	stripped with water vapor under subatmospheric pres sure and at temperature from about 130° to 260° C. The liquid to be treated is passed through one or more treat		
[30] Foreign Application Priority Data		ing levels and is agitated therein by rising water vapor.  At least one of the treating levels contains numerous conical circulating ducts, which can be flown through in an upward direction and are provided with a water			
Apr. 27, 1988 [DE] Fed. Rep. of Germany 3814254					
[51]	Int, CL <sup>5</sup> B01D 3/10; B01D 3/38		vapor inlet in their lower portion, which is narrower in cross-section. The cone angle of the circulating duct measured against the vertical may vary from 5° to 20°		
[52]	U.S. Cl				
[58]		arch 202/158, 205, 234;	C.		
	203/92, 96; 261/114.1, 124, DIG. 76; 55/198; 422/231		4 Claims, 1 Drawing Sheet		

# Edible Oil Refining Process



# Our Refining Technologies Provide

Continuous bleaching under vacuum to prevent oxidation using mild food-grade acid and natural soils inhibits oil degradation.

Continuous deodorising under ideal vacuum conditions removes free fatty acids and undesirable odours and flavours

Options for an integrated vacuum system with chilled water surface condensing or even ice condensing for energy saving and minimising waste.

The deodorising section processes single batches of oil in semi-continuous mode for ease of charging different kinds of feed oils without interrupting production

Continuous deacidification through carrier steam distillation removes unwanted free fatty acids. Ideal vacuum conditions ensure no oxidation for superior quality oils.



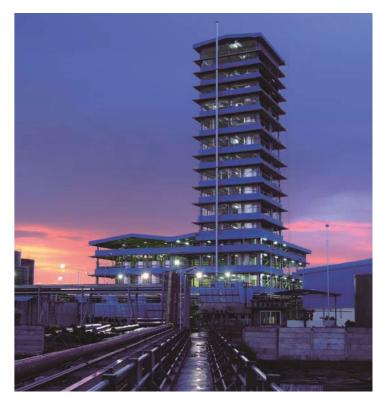
Deodoriser delivery. 3500 TPD - World's largest single edible oil refinery



Inside a JJ-Lurgi edible oil refining plant



Deodoriser in action



Physical refinery plant in Indonesia



Chemical refinery plant in China



# **ADVANTAGES OF LURGI REFINING TECHNOLOGY**

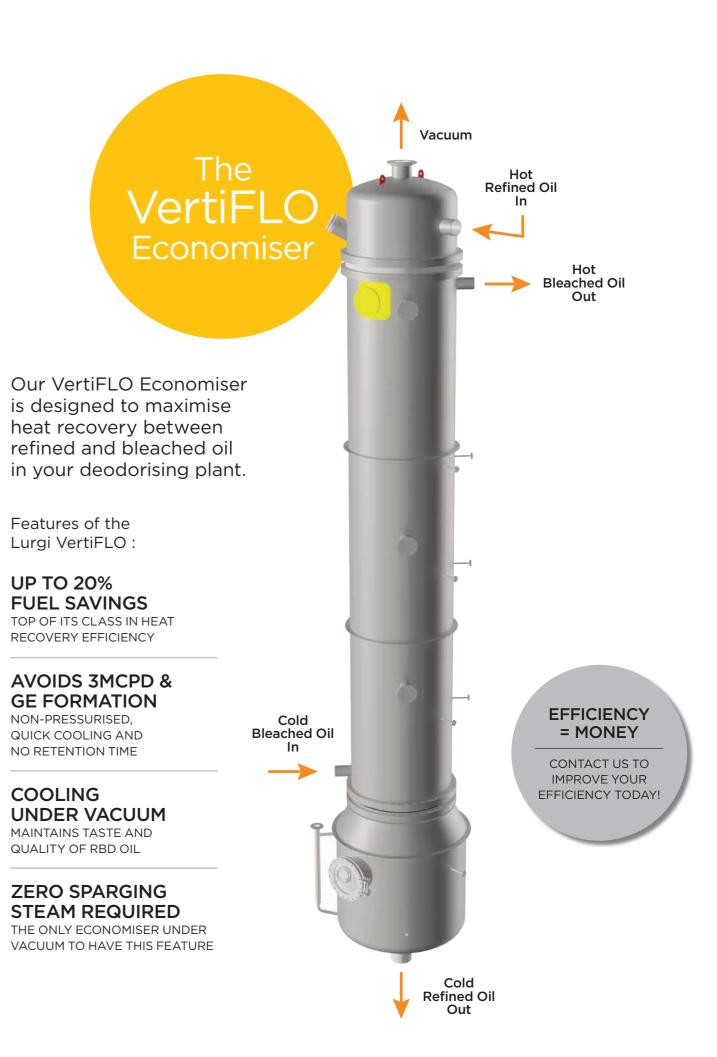
The Zyklon Deodoriser The Lurgi Zyklon Deodorizer is the new secret in delivering outstanding oil stability. **OUR DEODORISER IS** DESIGNED TO GUIDE OIL UNIFORMLY THROUGH THE COLUMN. INSIDE, OIL FLOWS STEADILY PASS SPECIALLY ARRANGED STAGES THAT ALLOW A **BALANCED RETENTION TIME** 

OF HEATING AND SPARGING.

TRADITIONAL DEODORISER **DESIGNS DO NOT TAKE INTO** ACCOUNT THE IMPORTANCE OF OIL MOVEMENT, THUS RISKING REVERSION IN THE FINISHED PRODUCT.

WITH THE ADVANCEMENT OF THE LURGI ZYKLON, A NEW GENERATION OF **DEODORISING CONCEPT IS** AVAILABLE TO YOU NOW!







### **ENGINEERED FOR YOU**

OIL SEEDS EXTRACTION

FDIBLE OILS

OLFOCHEMICALS

SPECIALTY FATS

BIODIESEI

OFFICES

#### MALAYSIA

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