



application

CO Plant

**Yangtze River Acetyls Co. Ltd. /
BP Sichuan SAP Joint Venture**

60 specialist HC 'Thermimax Matrix' hydrocarbon processing burners were supplied to the Yangtze River Acetyls Co. Ltd. / BP Sichuan Joint Venture project in China by Lanemark International Ltd., where they continue to meet the highest levels of performance.

Rated up to 1.05MW, the burners provide flexible operation as a result of their ability to burn a wide range of gaseous fuel mixtures supplied through a single fuel header. After start-up on natural gas, each burner is continuously operated on either hydrogen off gas or synthesis fuel gas.



Application Details

End User	B.P./Yangtze River Acetyls Co. Ltd.	
Licensor	Lurgi OEL-Gas-Chemie GmbH	
Engineering	Lurgi OEL-Gas-Chemie GmbH	
Constructor	Lurgi/Yangtze River Acetyls Co. Ltd.	
Number & Type of Burners	Forced Draught:	100% Duty 36 : HC224AX12 66% Duty 24 : HC224AX12
Burner Head Material	Incoloy 800 Alloy	
Thermal Duty (100% Burner)	1.05 MW	
Fuel Types	Natural Gas/Hydrogen Off Gas / Synthesis Gas	
Fuel Operating Pressure	< 100 mbar	
Combustion Air Operating Temperature/Pressure	240°C / < 15 mbar	
Required Emission Levels	NOx : < 171ppm 3% O2, (dry) / CO : < 150ppm (dry)	
Expected/Actual Emissions	NOx : < 155ppm 3% O2, (dry) / CO : < 10ppm (dry)	
Required Noise Emissions	< 85dB(A)	
Expected/Actual Noise Emissions	< 80dB(A)	
Required Flame Profile	< L3000mm X < Ø700mm	
Expected/Actual Flame Profile	< L2500mm X < Ø600mm	

Operational flexibility is integral to the design of HC 'Thermimax Matrix' burners, ensuring that the specified flame lengths of less than 3.0m and NOx emissions of less than 350 mg/Nm³ were achieved.

"The installation was undertaken by Lurgi OEL-Gas-Chemie GmbH of Germany and is evidence of our belief in tailoring product performance to meet our client's stringent operating conditions," says Lanemark Director David Kirk.

The burners have been operating at full capacity since March 1998. All of the plant's production is being sold locally in China, making a valuable contribution to the rapidly developing Chinese economy.

General HC Burner Specification

Operation over a wide range of gaseous fuels

Burner capacity 50kW – 7.5MW

Fuel gas supply pressures from 10 mbar – 4 bar

Combustion air pressure drop 2 mbar – 60 mbar

Excess air levels from 0.5% to 500%

NOx emissions down to 35 ppm referenced to 3% O₂ (dry)

CO emission <10 ppm

Noise (sound pressure level) down to 70 dB(A)

Fuel turn-down with combustion air modulation – up to 10 : 1

Fuel turn-down with fixed combustion air – up to 4 : 1

All Lanemark HC burner equipment is designed and proven to meet the specific requirements of the Hydrocarbon Processing Industry. Its optimum performance is enhanced by Lanemark's expertise in, and commitment to, ensuring efficient operational objectives are comprehensively met, including environmental requirements. Support services include –

- Comprehensive 'in-house' computer software to assist burner design and selection
- Complete engineered burner packages to ease installation, commissioning and maintenance
- Professional engineering and supervisory staff available through all stages of the project
- All products and services supplied to accredited ISO9001 standards of quality assurance
- Comprehensive list of spares to maintain optimum burner performance and reliability