



Technology Fact Sheet

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Ning Bo Heyuan Chemical Company using DTMO Recovery Technology and Olefins Conversion Technology from Lummus Technology

- Owner:** Ning Bo Heyuan Chemical Company Ltd.
- Location:** Ning Bo, China
- Process:** Methanol-to-Olefins reaction recovery technology and Olefins Conversion Technology
- Capacity:** 600,000 metric tonnes per annum (MTA) total olefins from methanol and 90,000 MTA propylene using n-butylenes and ethylene from the DMTO recovery unit
- Production:** Ethylene and Propylene
- Technology:** Lummus DMTO recovery technology and Olefins Conversion Technology (OCT)
- Description:** The process recovers ethylene and propylene contained in the effluent from the DMTO reaction section. The process includes impurities removal, compression, and product fractionation. The DMTO (methanol-to-olefins) reaction technology is supplied by SYN.
- The processing scheme involves integration of C₄ feed treatment, selective C₄ hydrogenation, catalytic distillation (*CDHydro*) deisobutanizer and Olefins Conversion Technology for the production of polymer grade propylene.
- CB&I Advantage:** Lummus Technology, a leader in olefins technology, provides innovations proven in 26 licensed Olefins Conversion Units either under design or operating around the world. Plants utilizing this technology have the highest yield of propylene, the highest purity of propylene, the lowest energy route and capital cost to propylene and 25 years of proven experience.

Benefits:

DMTO Methanol-to-Olefins reaction recovery technology	
FEATURES	BENEFITS
Patent-pending absorber demethanizer system	Maximum energy efficiency and high recovery
Major equipment is carbon steel	Lowest capital cost
Single refrigeration system	High reliability
Classical Lummus olefins fractionation configuration	Efficient heat recovery from all process streams
Inherently safe design	Eliminates any concerns due to the formation of NOx gums

Olefins Conversion Technology (OCT)	
FEATURES	BENEFITS
On-purpose propylene	High yields – High efficiency – Long run-length – Reliable operation – Low investment
High propylene purity	Purity higher than from an ethylene unit
Low energy consumption	Lowest energy route to on-purpose propylene production
Low capital cost	Attractive economics for the process
Commercially proven	Proven in 26 commercial applications resulting in a wealth of operating data

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