

CASE STUDY

Alimak industrial elevators achieve optimal efficiency at a new polypropylene plant in China

Alimak industrial elevators are utilised in chemical facilities worldwide for everyday maintenance and the transportation of workers and equipment during closure times. Typical chemical plant applications for industrial elevators include boilers, chimneys, crackers, LNG & LPG tanks and towers.

The Shaanxi Yanchang Zhongmei Yulin Energy and Chemical Co., Ltd. polypropylene plant is located in the Yulin city in China's Shaanxi province, which is known for modern oil and gas developments. Alimak recently delivered two vertical access solutions for both the desulphurisation tower and chimney located at the chemical plant after the previous successful supply of an industrial elevator for a separate flue. As such, the customer was aware of the high quality and operational stability of Alimak's industrial elevators.

The pair of rack and pinion industrial elevators reached 79 metres and 40 metres respectively, each able to achieve a speed of 0.5 metres per second with a 450 kg capacity.

The challenges in providing this vertical access solution included the requirement for a sizeable 6-metre landing platform at the top of the first industrial elevator, which reached a 79-metre lifting height. As a result, the expert engineering team detailed the design and calculation for the extension landing platform to ensure optimal safety and reliability.



Polypropylene plant, Yulin, China

ELEVATOR DETAILS

Industry:	Chemical
Application type:	Desulfurization tower & chimney
Elevator type:	Industrial Elevator
Elevator model:	ALIMAK SL 500
No. of elevators:	3
Capacity:	450 kg & 490 kg
Dimensions:	1.04 m x 1.17 m x 2.2 m (W x L x H)
Speed:	0.5 m/s
Lifting height:	79 m, 55 m & 40 m
No. of landings:	4 & 3

Similarly, installing the elevator mast tie on the desulphurisation tower required significant planning to overcome the challenge of an inability to impact the anti-corrosion layer that protects the tower from damage. As such, the tie brackets were fixed to the outside of the tower in advance during a period of site maintenance to minimise downtime. What's more, the installations team successfully navigated the problematic positioning and welding requirements within this short period.

With each industrial elevator fitted with four and three landings respectively, the vertical access system will be critical to the plant's continuous safe operation, enabling reliable access to the whole desulphurisation tower and chimney for regular monitoring.