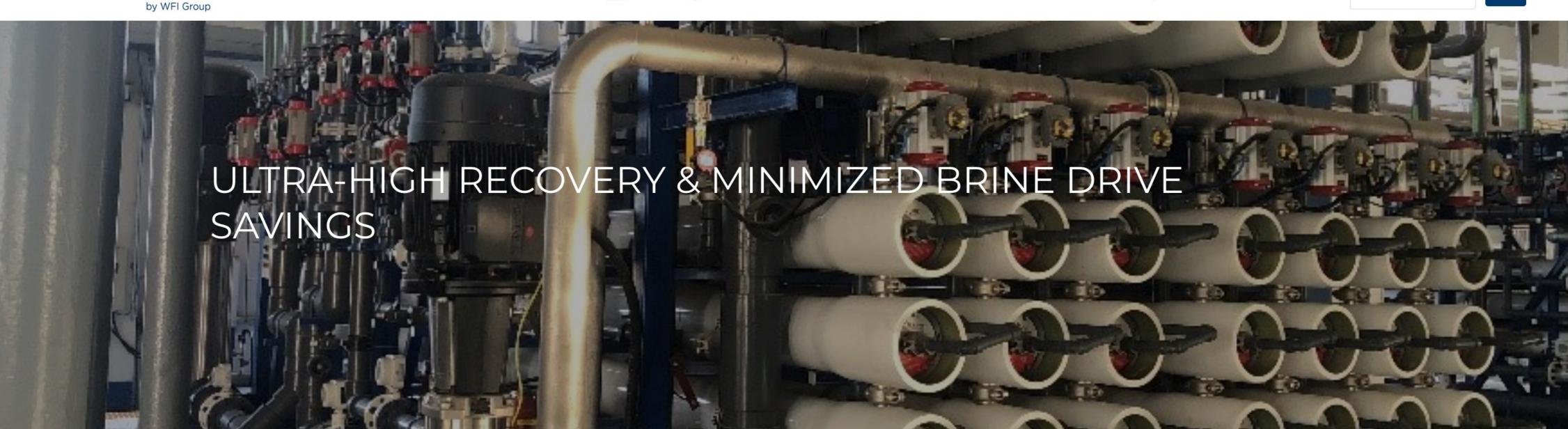
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CUSTOMER

Jinma Energy

PROJECT TYPE

Turnkey High-Recovery BWRO Desalination Plant

CAPACITY

7,920 m³/day (1,453 gpm)

LOCATION

Henan, China

COMMISSIONED

COMMISS

2020

STATUS

Operational

OVERVIEW

Henan Jinma Energy company, a leading Chinese coke producer and processor, was testing innovative technologies to treat wastewater from the petroleum coke (petcoke) production process. ROTEC's pilot demonstrated continuous stable operation at an 80% recovery rate in harsh feed-water conditions over several months. This led to a full-scale project based on our Flow Reversal RO technology, comprised of an array of three units with 2,640 m³/day (485 gpm) feed capacity each, providing a total feed capacity of 7,920 m³/day (1,453 gpm). Now operational and delivering a recovery rate of up to 90%, the plant is efficiently meeting customer and regulatory demands, while saving hassle and cost.





THE NEED

With increasing pressure from the national government to minimize industrial waste for disposal, Chinese factories are being urged to reduce brine concentration quantities. Rising to the challenge, Henan Jinma Energy selected ROTEC FR-RO technology for its

The company's goals: to significantly reduce brine quantities today and enable future savings, eliminating the need for an additional brine concentration system, such as an evaporator or crystallizer.

THE PROCESS

new wastewater treatment facility.

ROTEC designed, manufactured, installed and commissioned onsite an array of three FR-RO units to treat petroleum coke plant tertiary effluent. Based on ROTEC's proprietary FR-RO technology, each unit treats ~110 m³/h (484 gpm). RO trains are fed with the plant's wastewater after combined biological/UF/MF pretreatment. Each train consists of three stages – 15:6:3 (PV configuration) – and is built from

SUSTAINED HIGH RECOVERY AND MINIMIZED RISK

corrosion-resistant duplex piping material, and designed to reach up to 50 Barg.

The treatment plant, based on the game-changing FR-RO technology and combined with our highly cost-effective brine concentration solution, is operating successfully at Jinma Energy, delivering stable performance with up to 90% recovery – an extremely high recovery rate for petroleum coke plant tertiary effluent. Despite the harsh feed water conditions, the plant is highly effective at reducing brine drainage, eliminating the risk of heavy fines that can be levied for draining large amounts of concentrate.

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reverse osmosis desalination solutions and services. With our eco-friendly approach based on our FR-RO technology, we enhance water recovery, efficiency, and reliability, supporting healthy communities.

ROTEC provides holistic, modular

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