

Large Chinese Steel Enterprise Chooses Emerson for 100% Hydrogen Pressure Regulating Solutions

RESULTS

- Ensured safe, reliable and accurate pressure regulation meeting local and international codes and standards
- Reliably controlled the hydrogen pressure and enabled the safe operation of the furnace
- Succeeded in greening of the steel plant and reducing its carbon footprint



APPLICATION

The first 100% Pure Hydrogen Regulating Skid Solution in Asia Pacific.

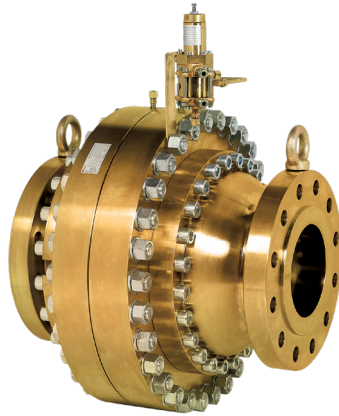
CUSTOMER

The large Chinese steel enterprise was established to meet the market demand in South China and Southeast Asia. It is committed to building the world's most efficient green carbon steel production base.

CHALLENGE

The hydrogen fuel industry is growing faster than ever, with government and private investments changing the market landscape daily. There is a strong push to mitigate the ultra-high carbon emissions from the steel smelting industry and a focus on corporate social responsibility to address global warming. A revolutionary process system was needed to achieve the decarbonization target for the customer who also wanted to reduce production costs by replacing coal gas with pure hydrogen. The hydrogen direct reduction shaft furnace system is essential for carbon emissions reduction, and the customer wanted to build a new one that uses pure hydrogen instead of coal gas as fuel. This project can achieve a carbon neutralization by 2050.





*Tartarini™ Type FL Series
Pressure Reducing Regulator*



Fisher™ Type OSE Slam-Shut Valve

SOLUTION

Emerson engaged early with the customer and understood their pains and needs. Based on that understanding, Emerson shared documentary evidence from tests carried out on Emerson products for 100% hydrogen service so that customer can make an informed decision upfront. The shared documents included extensive research done by Emerson on materials suitability for 100% hydrogen service and their methodical testing of components and assembled products. This early engagement resulted in the award of the first-ever 100% pure hydrogen fuel gas skid, which has become the benchmark for steel smelting industry's future. Emerson's offering included field proven Tartarini Type FL axial flow pressure regulators and Fisher Type OSE Slam Shut Valves. The integrated skid included stainless steel pipes, appropriate welding codes for hydrogen service, and third-party witnessed inspection and reports before commissioning of the skid, etc. Emerson Lifecycle Services program helped to optimize the customer's assets management needs.

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