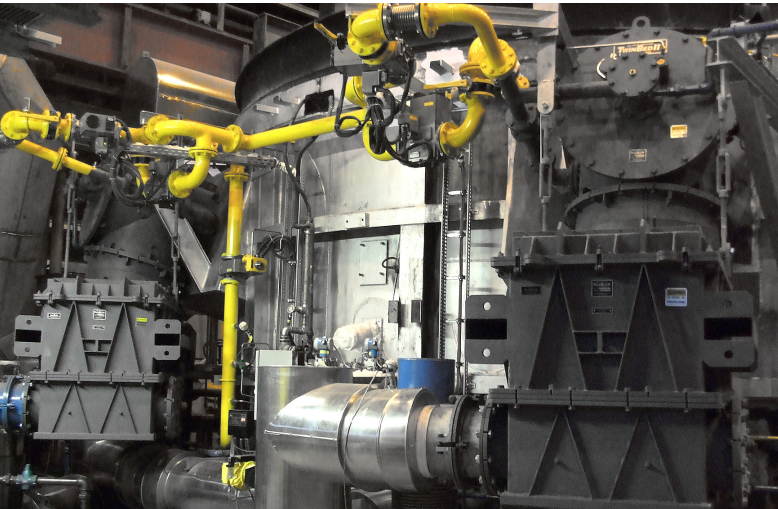




Top Charge Aluminum Melting Furnace

Furnace converted to TwinBed®II regenerative combustion system



Top charge melting furnaces provide high intensity melting, and therefore require high heat release from the combustion system. Even though this furnace already had a heat reclamation combustion system (recuperative), this plant realized significantly large fuel savings with the retrofit of a Fives North American TwinBed®II regenerative combustion system.

Furnace	40 metric tonne round top charge aluminum melting furnace
Original combustion system type	Recuperative – 4 burners
Original combustion system power	10.3 MW, 400C combustion air
Conversion combustion system type	Two pair regenerative
Conversion combustion system power	11.0 MW
Before conversion net melting rate	12 to 14 metric tonne per hour
Before conversion specific gas energy consumption	760 kWh per metric tonne
Post conversion net melting rate	16.5 metric tonne per hour
Post conversion specific gas energy consumption	510 to 540 kWh per metric tonne
Estimated annual benefit from fuel savings	820,000 USD (gas price = \$ 9.75/mmBtu)