Cost and energy savings for steel industry

Air Products South Africa has recently designed and implemented a new way of mixing gases using thermo-compressor technology, and as part of ongoing trials has successfully commissioned the first station of its kind at ArcelorMittal’s Newcastle operations. The problem was that the mill required gas at a higher pressure than what was available from the blast furnace. Instead of the traditional method of using a booster compressor powered by electricity, the company designed a gas thermo-compressor. This system controls and modulates the gas mix ratio to give the exact calorific value required by the customer. To compress the blast furnace gas by 25 kPa (according to the design flow rate) would have required a blower consuming 145 kW of power. The major benefit of the gas thermo-compressor is that it utilises zero electrical energy which translates into significant cost savings for the customer.

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