PRODUCT DATASHEET

Lock-Hopper and Purge Gas Skid (N_2 / CO_2)

N_2 / CO_2 pressurisation for gasifier lock hoppers





DETAIL – VESSELS

OVERVIEW

The Tech Inc. Lock-Hopper and Purge Gas Skid (N_2 / CO_2) supplies high-pressure nitrogen or CO_2 to pressurise and purge the lock hoppers that feed coal into a pressurised gasifier. Every lock-hopper cycle needs gas to raise the hopper from atmospheric to gasifier pressure and then to vent and purge it safely, which means the skid must deliver large, repeated volumes of gas on demand.

MODELS AND CONFIGURATIONS

- **Nitrogen skid** – nitrogen pressurisation and purge for lock hoppers and feed lines.
- **CO_2 skid** – CO_2 pressurisation where nitrogen dilution of the syngas must be avoided.
- **Combined N_2 / CO_2 skid** – both gases with separate circuits, to client specification.

TYPICAL DESIGN DATA

Gases	Nitrogen or CO_2
Delivery pressure	Matched to the gasifier operating pressure, or to client specification
Flow and buffer volume	Sized to the lock-hopper cycle, or to client specification
Boosters	In-house gas booster units, with number and duty to client specification
Pressure vessels	Built in-house to the applicable pressure vessel code or client specification
Controls	PLC sequence control with interlocks to the gasifier control system, to client specification
Electrical	Equipment selected to the hazardous-area classification of the site

APPLICATIONS

Lock-hopper pressurisation, coal feed line purge, gasifier and burner purge, instrument purge, and inert blanketing in coal and lignite gasification plants.

KEY ADVANTAGES

- **Sized to the cycle** – buffer volume and boosting matched to each lock-hopper pressurisation step
- **N_2 or CO_2** – gas choice to suit the downstream use of the syngas
- **Built around own-make boosters** – gas boosters and pressure vessels made in-house
- **Sequenced control** – the PLC steps through pressurisation, vent and purge with interlocks

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

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