

# Case Study

## Process Blower Package



## SASOL South Africa

2011

Two Hibon® positive displacement blowers in package SNS 4 with enclosure used for wastes gases transfer to a gas flare system in a petrochemical industry.

### Customer Overview

Sasol is an integrated energy and chemicals company. This company adds value to coal, oil and gas reserves, using these feedstocks to produce liquid fuels, fuel components and chemicals.

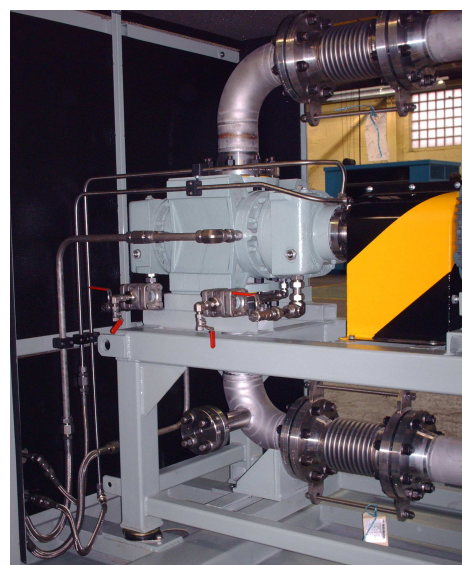
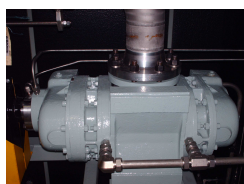
Sasol's chemical cluster consists of businesses that produce polymers, solvents, surfactants, aluminas, waxes, fertilisers, explosives and phenolics.

### Challenge

Flaring is a high-temperature oxidation process used to burn combustible components, mostly hydrocarbons, of waste gases from industrial operations. Natural gas, propane, ethylene, propylene, butadiene and butane constitute over 95 percent of the waste gases flared. In combustion, gaseous hydrocarbons react with atmospheric oxygen to form carbon dioxide (CO<sub>2</sub>) and water. In some waste gases, carbon monoxide (CO) is the major combustible component.

Flares are used extensively to dispose of purged and wasted products from refineries, unrecoverable gases emerging with oil from oil wells, vented gases from blast furnaces, unused gases from coke ovens, and gaseous wastes from chemical industries. Complete combustion requires sufficient combustion air and proper mixing of air and waste gas.

An external momentum force, such blowing air, is used for efficient air/waste gas mixing and turbulence, which promotes smokeless flaring of heavy hydrocarbon waste gas.



### Solution

We have proposed in 2006 two Hibon® positive displacement blowers in package SNS 4 with enclosure.

Gas : C<sub>3</sub>H<sub>6</sub> (30,9% - 18.5%)

C<sub>3</sub>H<sub>8</sub> (1.7% - 1%)

C<sub>5</sub>H<sub>10</sub> (3.1% - 0.1%)

N<sub>2</sub> (64.2% - 80.4%)

Abs. Inlet pressure: 2020 mbar Abs - 920 mbar Abs

Abs. Outlet Pressure: 2410 mbar Abs -1320 mbar Abs

Differential Pressure : 400 mbar

Flow : 290 m<sup>3</sup>/h - 580 m<sup>3</sup>/h

Particularities:

- SNS 4 in steel construction GE230
- Double gas mechanical seals at shaft end
- Buffer gas feeding panel



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