

# Case Study

## Positive displacement Blower units



### Propilven El Tablazo- Venezuela

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Three Positive displacement blower units SNH 890 with double mechanical seals at shaft end Type B1 with enclosure are used in a polypropylene plant for powder transfer.

#### Customer Overview

"Polipropileno de Venezuela Propilven, S.A." is a Venezuelan mixed capital company, which produces various grades of polypropylene: homopolymers, random and impact copolymers.

Its plant is located at "El Tablazo" Petrochemical Complex in the Zulia State, at the north-eastern coast of Lake Maracaibo, towards the north-western area of Venezuela.

#### Challenge

A pneumatic conveying system transfers powders, granules, and other dry bulk materials through an enclosed pipeline. The motive force for this transfer comes from a combination of pressure differential and the flow of a gas, such as air or nitrogen.

The system's basic elements include a motive air source such as a positive displacement blower, a feeder or similar material-introduction device, a conveying line, a termination vessel and a dust collection system.

For certain conveying duties, it is necessary to convey the material in a strictly controlled environment. If a dust cloud of the material is potentially explosive, nitrogen is the most commonly used inert gas.

In this case of polypropylene plant, powder transfer is conveyed with nitrogen.



#### Solution

We proposed three Positive displacement blower units SNH 890 Type B1 with enclosure to the International engineering company "STI Servizi Tecnici Industriali".

Gas : N<sub>2</sub>

Inlet Pressure: 1013 mbar Abs

Outlet Pressure: 1583 mbar Abs.

Differential Pressure: 550 mbar

Flow : 6500 m<sup>3</sup>/h

The construction of the blower is in Cast Iron with parts in contact with the gas coated with chemical nickel. The shaft end sealing is made through a double mechanical seal lubricated with oil. This type of sealing required an external lubrication system.



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