

Air protection technology

Airprotech describes the realization of two very different plants working in chemical field, showing in this way its own competence and the know how acquired in 20 years' experience.

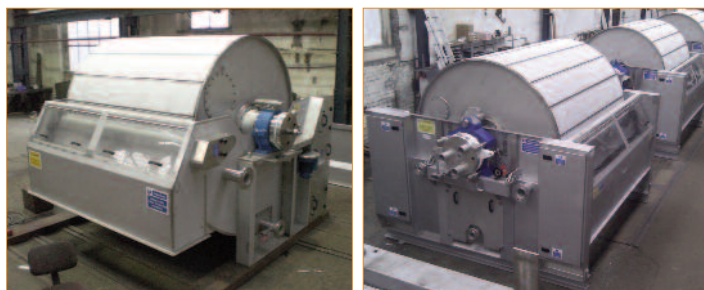
Regenerative thermal oxidizer for halogenated V.O.C. - The plant, realized in a Polish pharmaceutical factory, was studied to treat a flow rate of 20,000 Nm³/h with a V.O.C. (volatile organic compound) concentration of 5 g/Nm³ of diluted stream and a flow rate of 1,000 Nm³/h with a V.O.C. concentration of 200 g/Nm³ of concentrated stream. The plant would have been installed in a ATEX zone, classified ATEX ex II 2G T3 (Zone 1), accordingly the plant was totally built by respecting the ATEX directive CEI 31-30 E CEI 31-35. The plant was projected to have an important fuel consumption saving and an effective resistance to the aggressions.

V.O.C. treatment: preconcentration and regenerative thermal oxidation - The plant, realized for an important shipbuilding industry, was designed to treat a flow rate of 225,000 Nm³/h with a V.O.C. concentration of 100 mg/Nm³ with the possibility to have peak of 400 mg/Nm³. The plant guarantees emissions at chimney about C.O.T. lower than 20 mg/Nm³, NOx lower than 100 mg/Nm³ and CO lower than 100 mg/Nm³.



Regenerative thermal oxidizer for halogenated V.O.C.

www.airprotech.eu



Solid & liquid separation

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Rotary Vacuum filter 'Scraper Blade' type developed by **Velo Acciai** consists of a drum formed by an enveloped horizontal cylinder sealed on both ends and supplied with ris and reinforcing rings. The drum is subdivided into different sectors each sector having air tubes connected to an extraction valve. The sectors are separated by specially formed pieces in AISI 304 having the dual purpose of acting as fixings for the drainage grills and of the filter. The drum is supported by strong steel pins on which are placed the filtrate extraction valves and the drum rotation motor. The transmission group for the drum rotation has variable speeds from 0.2 to 1.2 turns/minute. The rotation movement is supplied essentially by a seated motor unit firmly attached to the drum complete with sealed electrical motor with external ventilation. The tank is made from welded sheets reinforced externally with steel pieces and of adequate dimensions. The tank comes complete with the following flanged openings: pulp entrance; waste tank; overflow; L.C. (with probe). An oscillating agitator rake type keeps the pulp in the tank moving to avoid sedimentation. An automatic valve is available for filtrate extraction and rapid discharge, frontal type for the extraction of the filtrate and air distribution for the separation panel.

Producing nitrogen and oxygen on site

Chemical companies are familiar with the disadvantages of buying nitrogen and oxygen in cylinders or in tanks and the relevant difficulties, such as caution in operations and difficulties in cylinders handling. It is increasing tendency to self-produce nitrogen and oxygen directly on site, to reduce the cost of gas supply and the to avoid dangers linked to gas storage. NITROSWING[®] PSA Nitrogen Generators, OXYSWING[®] PSA Oxygen Generators and Membrane Nitrogen Generators from the **Innovative Gas Systems Group** are present in the chemical industry, providing the needed gas to companies all around the world, with a wide range of models, in total safety, fully automatically, with minimal costs and according to desired flow, pressure and purity of the gas. The main innovations introduced by the NITROSWING PSA Nitrogen Generators and the OXYSWING PSA Oxygen Generators are both, the real possibility to increase or reduce the gas flow directly on site, with few simple operations and without substantial changes to the system, and energy saving, assured by the FlatFlow[®] system, linked to the compressed air which feeds the generators. The modularity of the generators gives the customer the possibility of expanding the gas flow by adding locally one or more modules to the generator.

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Skidded NITROSWING NS-45 dual bank nitrogen generator