GRUPO VENTO

DESULFITATION-CONCENTRATION SYSTEM for GRAPE MUST AND FRUIT JUICE

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SYSTEM PROCESS

Thermal energy consumption reduced by 60% compared to a 3 effects conventional concentrator-desulfitator

Until now, in order to obtain a good desulfitation in multiple effect concentrators-desulfitation units there was a minimum set of effects to achieve the minimum evaporation rate to assure the desulfitation.
By this new system “TWODSYSTEM” the evaporation and desulfitation stages are distributed in a way that increases the overall yield of steam up to 5 times. This allows decreasing the energy costs by 45% – 55%.
The “TWODSYSTEM” respects the technical conditions to assure the organoleptical quality and desulfitation yield at the same time that air and water emissions are way below the maximum legal values.
The final degree of desulfitation varies largely depending on the final use of the finished product. This equipment complies with the most demanding requirements.

The evaporated water from the juice contains SO2, and it is an important source of environmental pollution. The equipment includes a desulfitation unit that concentrates the SO2 gas to 98%. This gas is led to a neutralizer equipment, in order to prevent its emission to the atmosphere, obtaining a sulfite concentrated solution that can be used in the chemical industry.
The desulfited and evaporated water goes across a

Great amortization and profitability rates.

Possibility of implantation to already build units improving the energy efficiency.

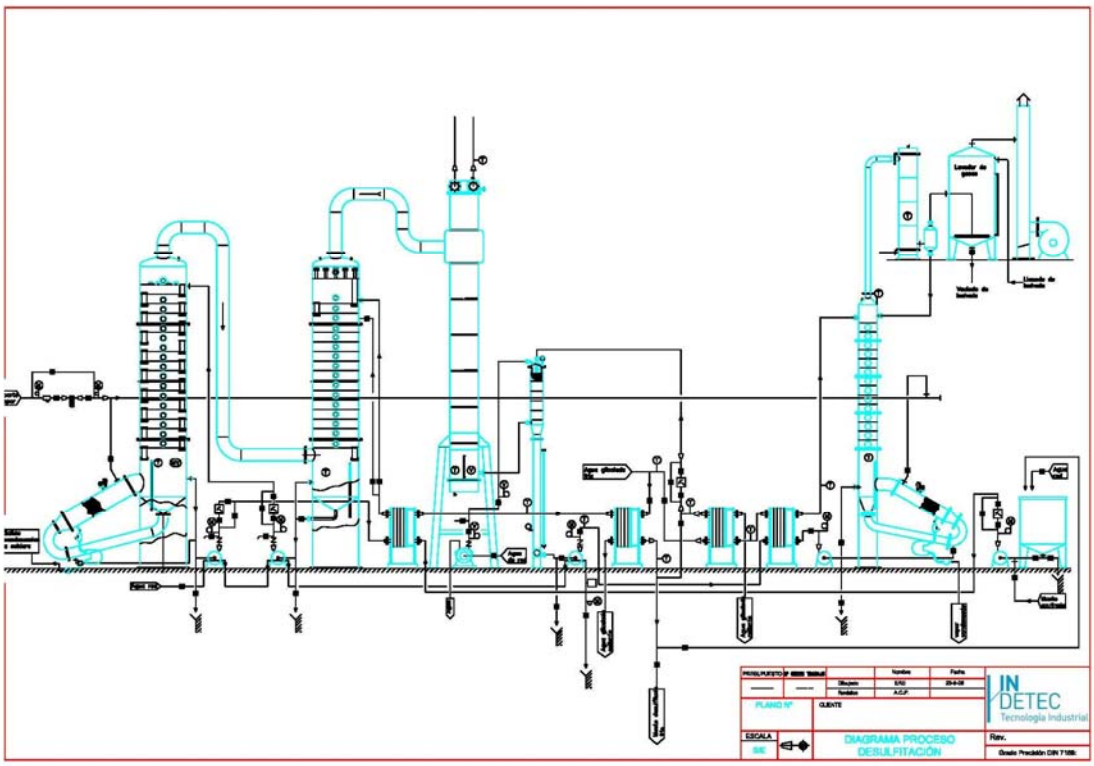
double heat exchanger that decreases the energetic consumption. In this heat exchanger the evaporated water is cooled and added to the outlet of desulfited juice, in this way the outlet of desulfited juice has the same degree Brix than the inlet of sulfited juice.

The most important parameters of the system are as follows:

- Content of total SO_2 in the outlet juice under 20 ppm.
- Content of total SO_2 in the desulfited evaporated water under 5 ppm.
- Content of SO_2 in the atmospheric emissions under 0,002 gr/m^3
- Steam consumption of 0,2 kg vapor/kg treated juice.

Water consumption of 0,15 Kg water/Kg treated juice. If the desulfited evaporated water isn't added to the outlet juice, it can be used in many parts of the process: replenishment of the cooling tower, replenishment of the vacuum pump, cooling of the mechanical seals of the pumps, in this case no additional water is required.

PROCESS DIAGRAM



INSTALLATION EXAMPLES

- Desulfitation equipment (grape must) for BODEGAS LOPEZ MORENAS in Fuente del Maestre (Badajoz) with a treatment capacity of 5.000 Kg/h
- Desulfitation equipment (grape must) for AVELINO VEGAS en San Tiuste (Segovia) with a treatment capacity of 4.000 Kg/h
- Desulfitation and concentration equipment (grape must, fruit juice) for J. GARCIA CARRIÓN in Jumilla (Murcia) with a treatment capacity of 10.000 Kg/h
- Desulfitation and concentration equipment (grape must) for MOSTINSA in Valdepeñas (Ciudad Real) with a treatment capacity of 8.000 Kg/h
- Desulfitation and concentration equipment (grape must) for VIÑAOLIVA in Almendralejo (Badajoz) with a treatment capacity of 8.000 Kg/h
- Desulfitation and concentration equipment (grape must) for SECNA in Benifaio (Valencia) with a treatment capacity of 8.000 Kg/h
- Desulfitation and concentration equipment (grape must) for MOSTOS DEL PACIFICO in Curicó (Chile) with a treatment capacity of 10.000 Kg/h