Tecnoimpianti
#ProvidingSolution

ADSP
Advanced Desulphurising System Process

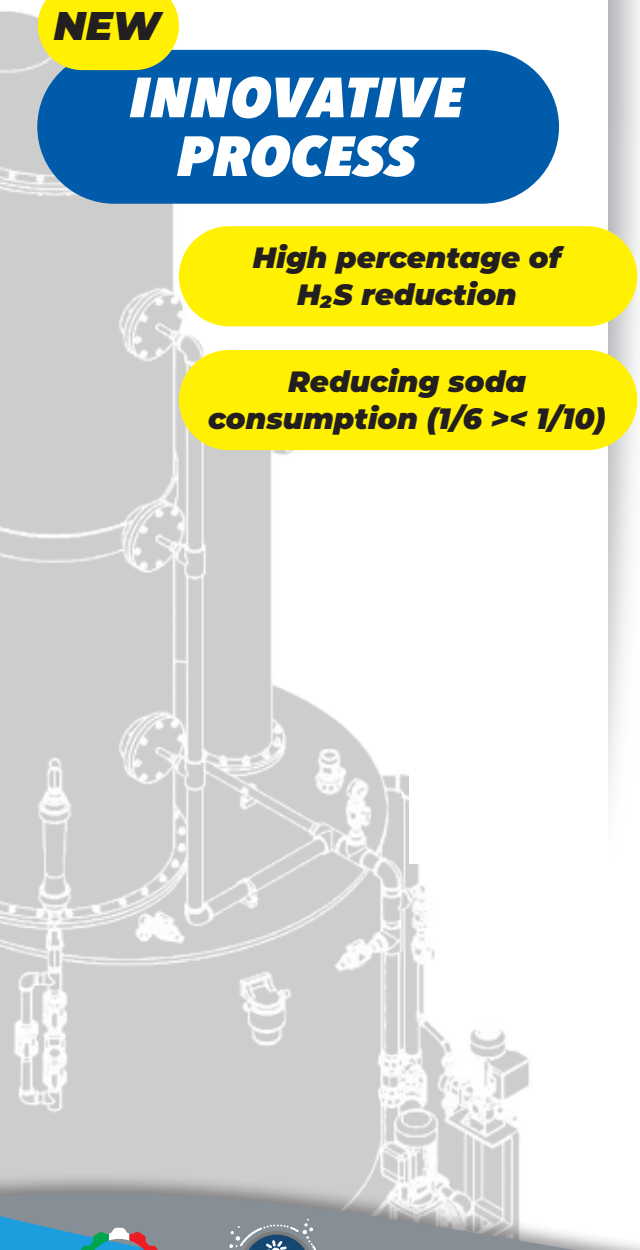
Desulphurisation solutions for BIOGAS

NEW

INNOVATIVE PROCESS

High percentage of H_2S reduction

Reducing soda consumption (1/6 >< 1/10)



Alongside air treatment and odour reduction solutions, **TECNOIMPIANTI** has developed **processes and technological plants for the purification of process gases in various sectors.**

In the field of renewable energy and biomethane, special attention has been paid to the **treatment of liquid digestate and the removal of ammonia,** a compound that tends to accumulate and is considered a typical problem in biodigesters.

TECNOIMPIANTI also produces biogas purification and washing systems for upgrading and biomethane production.

In most cases, ammonia is not a critical pollutant in biogas, while there is another **compound that must be removed, namely hydrogen sulphide (H_2S)** through a biogas desulphurisation process.

H_2S is an acidic, toxic and highly polluting gas that is present in the biogas mixture on average around 400 ppm but can reach values of even more than 1500 ppm in some cases.

Due to its corrosive component, it must be removed down to values of a few ppm in the biogas by a **DESULFURING** process. This applies to all upgrading processes for reinjection of biomethane into the grid and even more so in cases of liquefaction to liquefied **BIOMETHANE**.

There are two technologies that **TECNOIMPIANTI** proposes, both of which **can be achieved through the use of wet-wash towers made of ATEX-certified thermoplastic material in PP-S EL.**

In more traditional processes, **H_2S** is removed by neutralisation with soda ash and removal of sulphates and sulphur: this technology is still recommended in the case of liquid biomethane production.

The most innovative system exploits the affinity of hydrogen sulphide with iron in an alkaline environment.

In this case, the reactions involved allow a reduced consumption of soda ash (about one sixth to one tenth compared to the more traditional process).

The great advantage, in addition to the significant percentage reduction in **H_2S**, is of a managerial nature. In fact, the regeneration principle of the Soda allows consumption to be reduced by having the washing solution 'regenerated' in a second reactor where oxidation with air takes place and the formation of sludge and elemental sulphur which are then separated by simple decantation.

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TECNOIMPIANTI WATER TREATMENT S.r.l.
Via Salvo d'Acquisto, 16/B - 20060 Pozzuolo Martesana (MI) · T. +39 02 95358203 · info@tecnoimp.com