SNC·LAVALIN

Building what matters

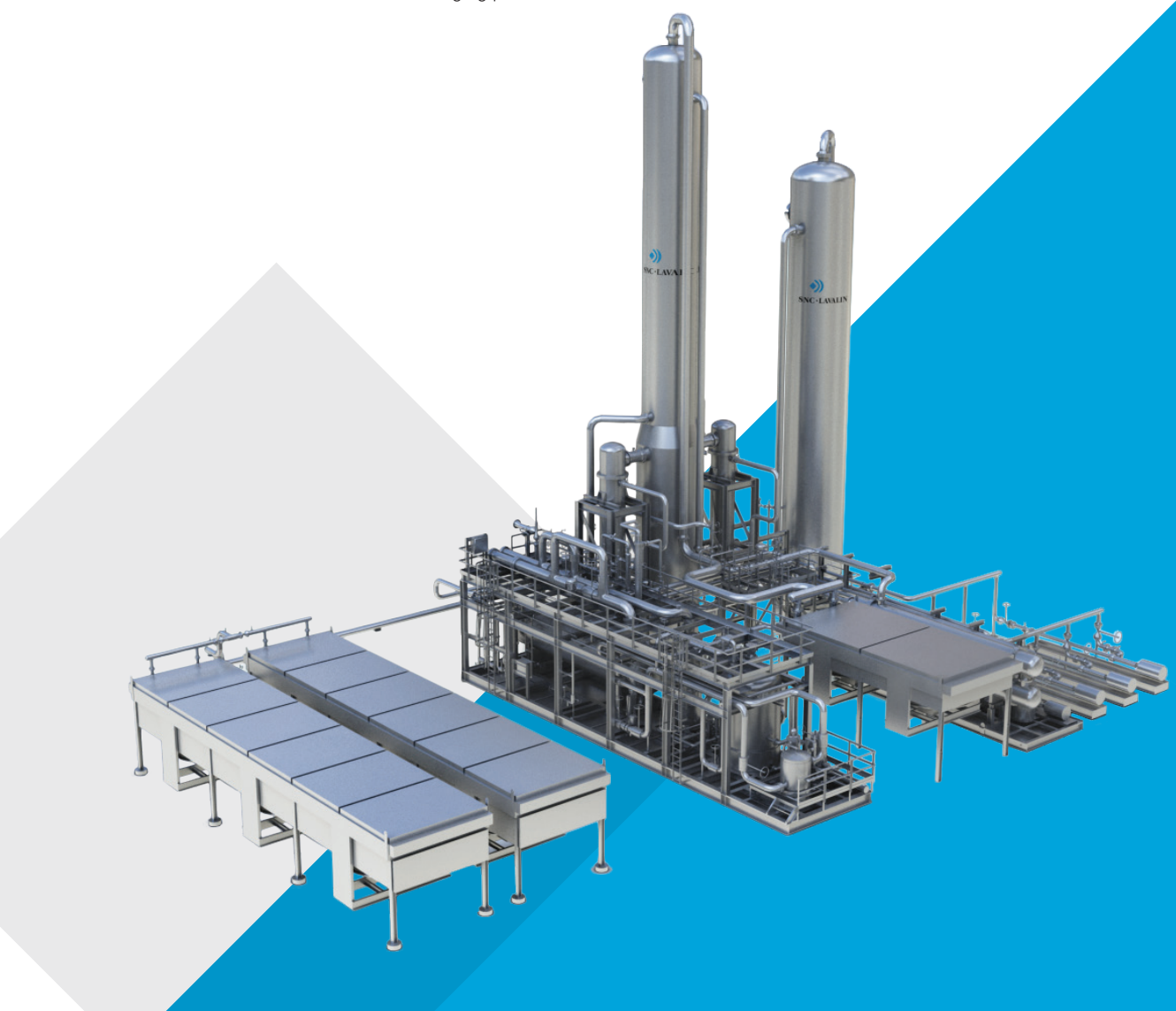
Amine Treating Unit

Production & Processing Solutions

Flexible, modular, standard designs ensure quicker delivery times.

The natural gas sweetening process typically includes both amine units and dehydration units. Amine units remove corrosive and highly toxic hydrogen sulfide (H_2S) and carbon dioxide (CO_2) from natural gas and natural gas liquids (NGLs) using amine-based solvents. Dehydration units efficiently and economically remove water vapor from natural gas through the use of triethylene glycol (TEG).

SNC-Lavalin amine treating units are modular, skid-mounted and assembled in a controlled environment for quicker deployment to the field. The modular construction ensures that field assembly time is minimized — an important consideration when faced with challenging production schedules.



Customer Challenge

Natural gas must be sweetened before transportation through a pipeline.

Before natural gas with high CO_2 or H_2S content can be transported through a pipeline, it must be sweetened to meet stringent pipeline specifications. Allowable limits vary by pipeline, but typically mandate a maximum content of 2 percent CO_2 and 4 ppm H_2S.

SNC-Lavalin Solution

SNC-Lavalin amine treating units are engineered to remove contaminants from natural gas, such as hydrogen sulfide and carbon dioxide, to below strict allowable limits. However, SNC-Lavalin's expertise extends beyond equipment design.

SNC-Lavalin works closely with our customers throughout the project development process to better understand their needs. One recurring need is rapid equipment availability. SNC-Lavalin proactively stocks long-lead components to reduce delivery times. Furthermore, based on the extensive experience of our subject matter experts, SNC-Lavalin has proven standard designs that minimize time spent in the equipment design phase.

Additionally, SNC-Lavalin provides customers with greater value through a turnkey integrated services agreement. By manufacturing, installing and commissioning the facility, we can provide accelerated startup and a process guarantee. This seamless process flow solution is SNC-Lavalin's commitment to making the project successful.

Features and Benefits

- **Flexible design:** Capable of using customer's choice of amine solvent.
- **Skid-mounted modular design:** Time-efficient and cost-effective field installation..
- **Standard amine plant designs:** Engineered for global applications plus quicker delivery times.

How It Works

After inlet separation, gas flows through an amine contactor tower. The tower typically contains 20 stainless steel trays. Within the tower, the incoming natural gas reacts with "lean" amine (a very low concentration of CO_2 and/or H_2S in the amine) that flows across the trays from top to bottom. The reaction between the gas and lean amine strips the CO_2 and H_2S from the gas.

The "rich" amine, now containing CO_2 and/or H_2S, circulates through the regeneration system to remove the contaminants from the amine solvent. Regenerated, the amine solvent is considered "lean" again and the process repeats. Downstream of the amine unit, the sweetened gas then flows to the TEG dehydration system.

Specifications

SNC-Lavalin provides amine gas treating units in the following standard nominal configurations. Additional sizes may become available at any time.

- 125 gpm
- 250 gpm
- 400 gpm
- 600 gpm
- 800 gpm
- 1000 gpm

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www.snclavalin.com/en/oil-gas/processing-treating