



**Sauer Compressors**



Passivation Air in Urea Plants

**Compressed air has taken on an important part in the very important sector of urea production within the fertilizer industry**

- **Suitable products**

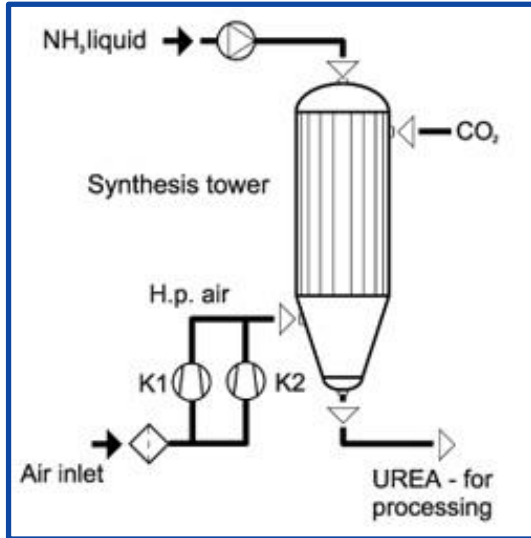
Our range of products makes Sauer Compressors a preferable partner.

- **Strength**

Sauer products are suitable for up to 55 °C and suitable for hostile environment.

- **Reliable partner**

Sauer Compressors has been and will be a reliable partner in after sales services during the whole lifetime of compressor.



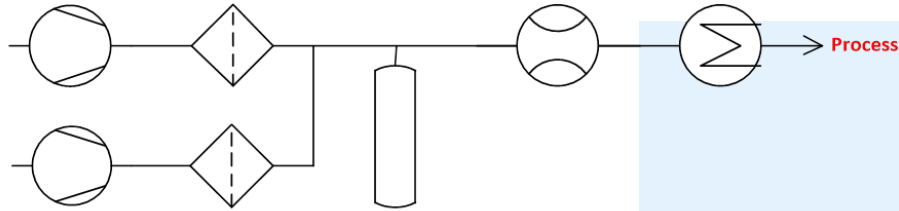
## Urea Production

Fluid ammoniac and gaseous carbon dioxide are fed to a reactor manufactured of 2 sheet metal layers with a wall thickness of approx. 6 mm; the outer layer is made of carbon steel and the inner layer of stainless steel.

Under heat (approx. 230 °C) and pressure (approx. 180 bar) synthetic ammonium carbamate which turns - after drying and further processing - into a white granulate.

## Why Compressed Air?

The stainless steel layer, containing up to 24% chrome, is forming - due to the continuous presence of compressed air - a very resistant brownish CrO<sub>3</sub> layer which is keeping oxidation and reduction (caused by the ammoniac) in equilibrium



## Equipment set up

Equipment typically set up in an open area with a shed as rain protection

Buffer tank is maintaining flow whilst condensate is drained

Alternative installation of a pressure maintain valve to generate an higher pressure to have a constant flow during the drainage process of the compressor

Compressors should be free of copper and copper alloys

<b>Compressor</b> Two or more compressors for operation + stand-by	<b>Filter</b> Oil content < 10 ppm	<b>Buffer</b> Pulsation reduction for protection of flow meter.	<b>Flow Meter</b> Process control	<b>Heater</b> Process temperature: ~230°C
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### Sauer case studies for reference:

End user: Romania – Azomures S.A.  
Model: WP4351 + Control Panel  
Medium: air  
Installed: 2 units in 2015  
Application: Ammonia production



### Sauer case studies for reference:

End user: PCS Geismar Urea Plant  
Model: WP4341 + Control Panel  
Medium: air  
Installed: 4 units in 2020  
Application: Ammonia production

## Sauer case studies for reference:

End user: HFCL Barauni/India  
Model: WP4351 + Control Panel  
Medium: air  
Installed: 2 units in 2019  
Application: Ammonia production

## Sauer case studies for reference:

End user: FCIL Sindri/India  
Model: WP4351 + Control Panel  
Medium: air  
Installed: 2 units in 2019  
Application: Ammonia production