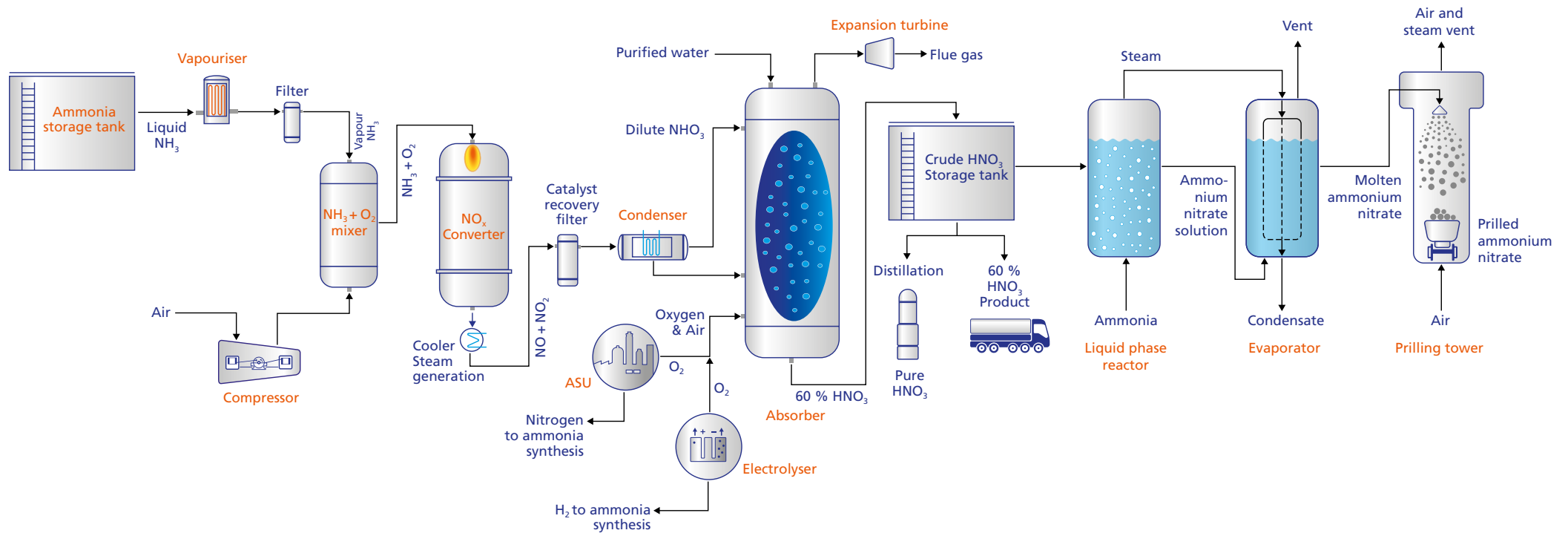


Nitric Acid and Ammonium Nitrate Production



NO_x Converter

- $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$
- $2\text{NO} + \text{O}_2 \rightarrow 2\text{NO}_2$
- $2\text{NO}_2 \rightleftharpoons \text{N}_2\text{O}_4$

NO_x Absorber

- $6\text{NO}_2 + 3\text{H}_2\text{O} \rightleftharpoons 3\text{HNO}_3 + 3\text{HNO}_2$
- $3\text{HNO}_2 \rightleftharpoons \text{HNO}_3 + \text{H}_2\text{O} + 2\text{NO}$
- $2\text{HNO}_2 + \text{O}_2 \rightleftharpoons \text{HNO}_3$
- $2\text{N}_2\text{O}_4 + \text{O}_2 + 2\text{H}_2\text{O} \rightleftharpoons 4\text{HNO}_3$

Ammonium Nitrate Reactor

- $\text{HNO}_3 + \text{NH}_3 \rightleftharpoons \text{NH}_4\text{NO}_3$