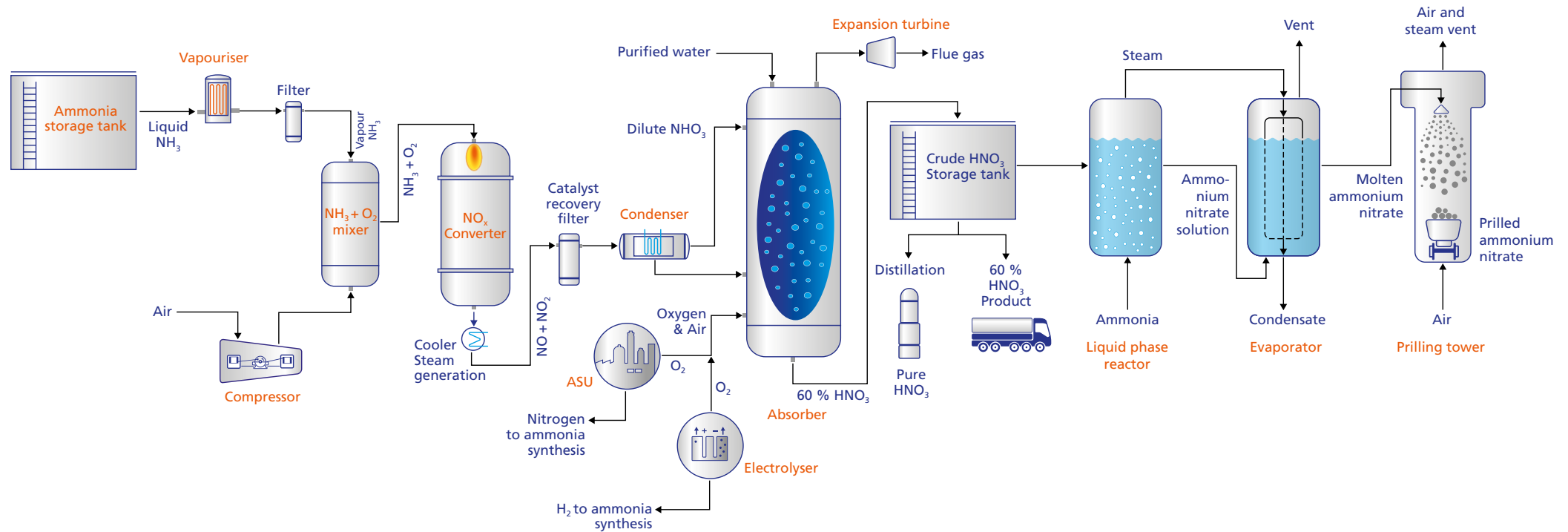


# Nitric Acid and Ammonium Nitrate Production



## NO<sub>x</sub> Converter

1.  $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$
2.  $2\text{NO} + \text{O}_2 \rightarrow 2\text{NO}_2$
3.  $2\text{NO}_2 \rightleftharpoons \text{N}_2\text{O}_4$

## NO<sub>x</sub> Absorber

1.  $6\text{NO}_2 + 3\text{H}_2\text{O} \rightleftharpoons 3\text{HNO}_3 + 3\text{HNO}_2$
2.  $3\text{HNO}_2 \rightleftharpoons \text{HNO}_3 + \text{H}_2\text{O} + 2\text{NO}$
3.  $2\text{HNO}_2 + \text{O}_2 \rightleftharpoons \text{HNO}_3$
4.  $2\text{N}_2\text{O}_4 + \text{O}_2 + 2\text{H}_2\text{O} \rightleftharpoons 4\text{HNO}_3$

## Ammonium Nitrate Reactor

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