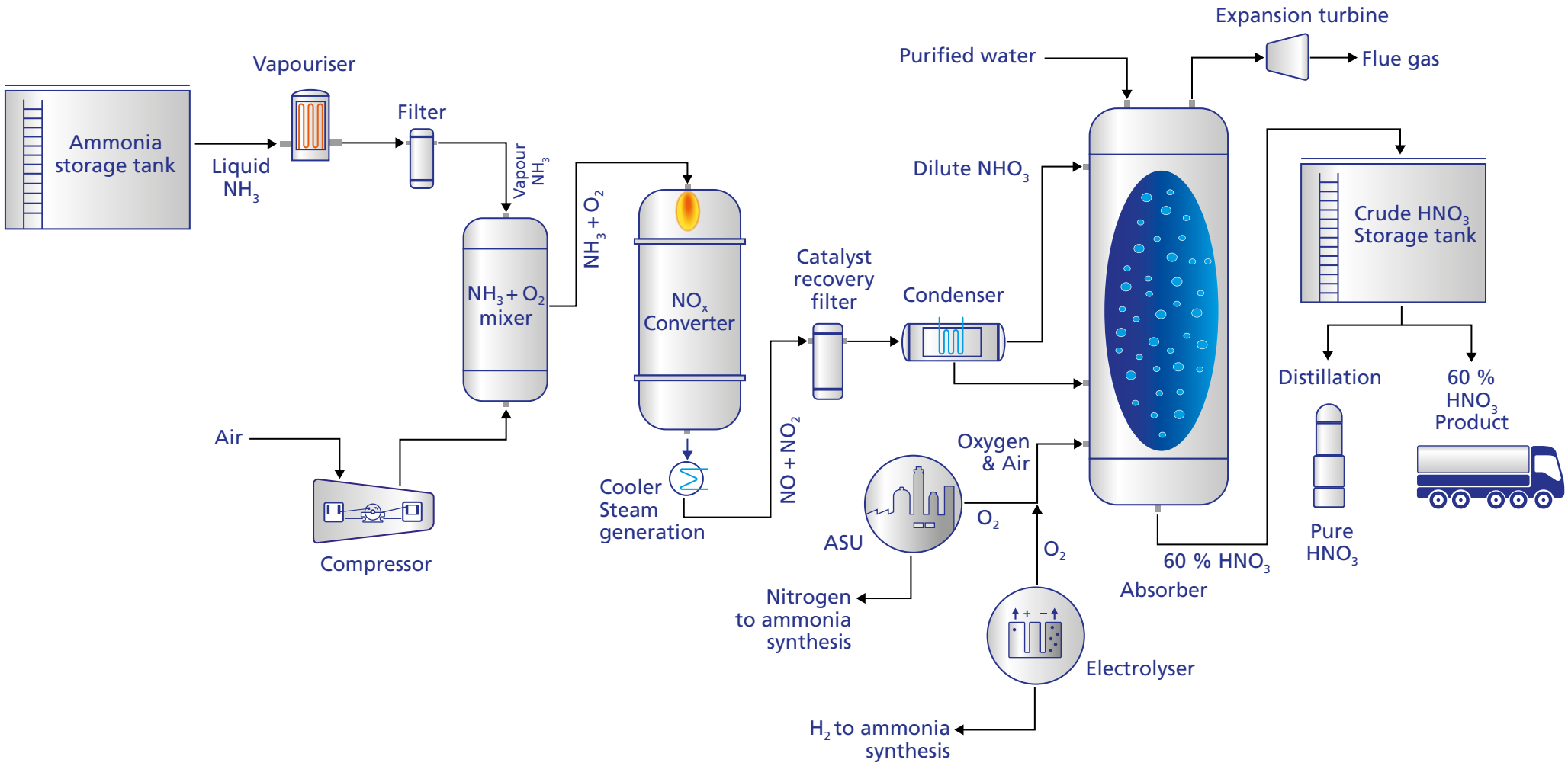
Ostwald Process for Nitric Acid Production



NO_x Converter

1. $4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$
2. $2NO + O_2 \rightarrow 2NO_2$
3. $2NO_2 \rightleftarrows N_2O_4$

NO_x Absorber

1. $6NO_2 + 3H_2O \rightleftarrows 3HNO_3 + 3HNO_2$
2. $3HNO_2 \rightleftarrows HNO_3 + H_2O + 2NO$
3. $2HNO_2 + O_2 \rightleftarrows HNO_3$
4. $2N_2O_4 + O_2 + 2H_2O \rightleftarrows 4HNO_3$

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