

Reflux Flask with Single-Neck Condenser

Principle:

Reflux is based on continuous boiling and condensation of a solvent. The reaction mixture is heated in a single-neck round-bottom flask. Vapors rise into the condenser, cool down, and return as liquid to the flask. This allows reactions to proceed at the boiling point of the solvent without loss of solvent.

Main Parts:

- Single-neck round-bottom (reflux) flask
- Condenser (Liebig or Allihn type)
- Heat source (heating mantle or hot plate)

Uses:

- Carrying out reactions that require prolonged heating
- Organic synthesis
- Digestion and hydrolysis reactions
- Preventing solvent loss during heating

Advantages:

- Maintains constant reaction volume
- Improves reaction efficiency
- Simple and effective setup