

Setting up reflux with a drying tube



When connecting the condenser to the round-bottomed flask you may need to use an expansion adapter.

Always use an appropriate size flask and make sure it is no more than half-full.



The condenser can not be inserted straight into the round-bottomed flask as the joints are different sizes



round-bottomed flask

adapter

condenser

There are two types of condensers which attach to the rubber tube in different ways.

Condenser with glass inlet and outlet pipes with a 'knuckle'

Slide the rubber tube onto the pipe and past the 'knuckle'



Condenser with screw thread on the glass inlet and outlet pipes

Attach the plastic adapter to the rubber tubing and then screw the adapter onto the pipe

The use of a drying tube is needed when the exclusion of moisture is required, but reaction under atmospherically inert conditions is not necessary.



Drying tube. Contains calcium chloride, which has a high affinity for water and draws moisture out of the reaction vessel.

All these pieces of glassware will need to be assembled after being in the oven to ensure the exclusion of moisture.

TAKE CARE: Glassware will be hot when first removed from an oven. Use gloves.

When setting up the condenser it is very important that you have the water flow in the correct direction.



Water in at the bottom

Water out at the top



When adding a heat source to the reflux set up, an oil bath may be used instead of the heating blocks.

heating
blocks

heater
stirrer



Remember to add either anti-bumping granules or a magnetic stirring bar to the reflux flask.