

Central Glass Blowing Section (Southern Lab 112-(A,B))

VACUUM TUBE SEALING UNIT

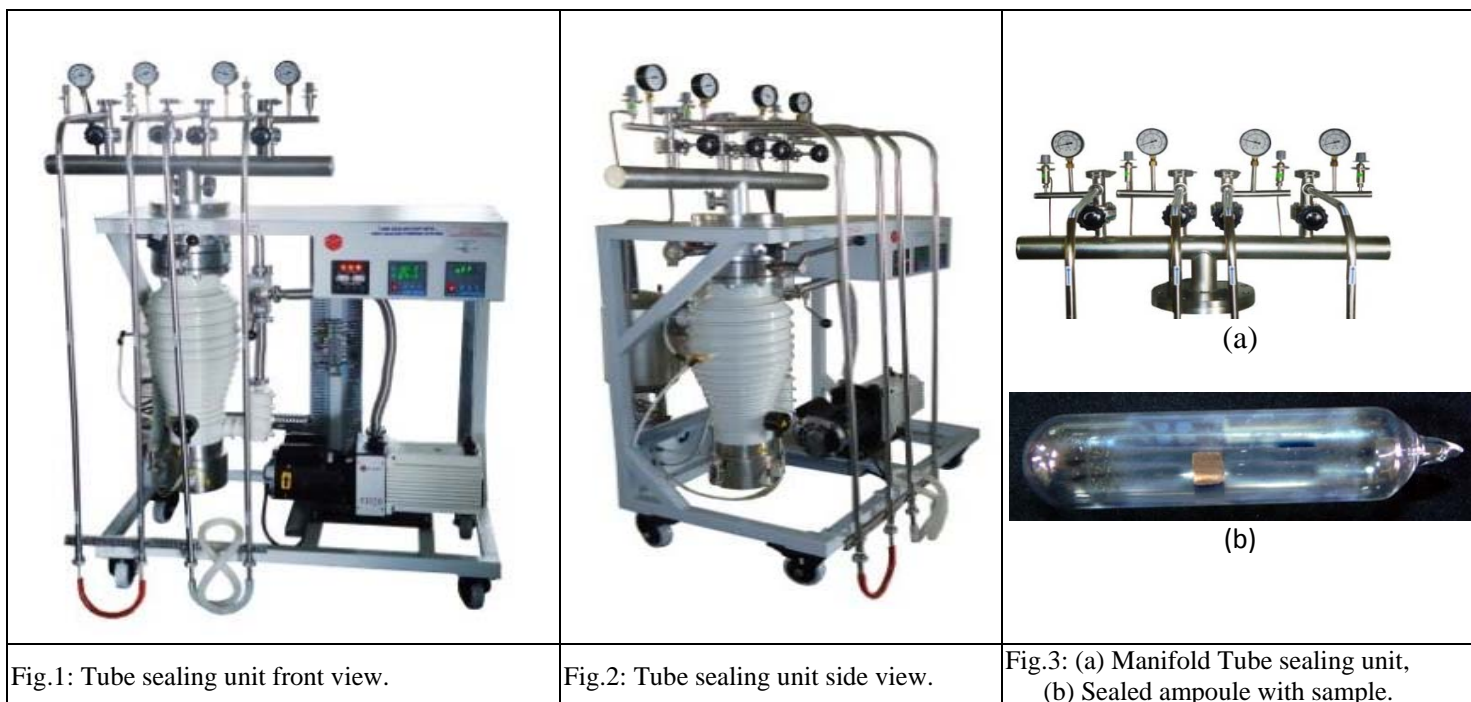
Function: To evacuate a glass/Quartz tube (with sample in it) and further seal the tube with LPG-oxygen flame.

This sealed ampoule can be heat treated in a furnace without contact with atmosphere. A certain gas of choice (e.g. nitrogen, argon, etc.) can be backfilled into the tube before sealing it– so that the heat treatment can be carried out in a preferred atmosphere.

Basic Operation: The sample placed in a glass/quartz tube and a constriction is made in the tube. The glass/quartz tube connected to the vacuum unit, to remove the air from the sample. The tube may be backfilled with inert gas (like Ar) and re-evacuated to obtain a low partial pressure of oxygen in the tube. The tube may be backfilled with a gas of choice. The tube is sealed at the constricted (neck) to form an ampoule.

Features of the unit:

- Upto 4 glass/quartz tubes can be evacuated simultaneously.
- Diffusion pump backed with a rotary pump can give vacuum more than 10^{-5} Torr. If only rotary vacuum ($\sim 10^{-3}$ Torr) is desired (which leads to faster sealing)– this is also possible.
- Any of the evacuated tubes can be independently backfilled with gas of choice (using a needle valve).



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