

# LINSEIS LOW TEMPERATURE DILATOMETER

with Closed Loop Thermo Haake Intercooler (-30°C up to 500°C)



This dilatometer uses a standard Linseis low temperature furnace L75/264, which is normally cooled with liquid nitrogen.

Liquid nitrogen is a very good solution to be able to make low temperature measurements down to  $-150^{\circ}\text{C}$  ( $-180^{\circ}\text{C}$ ). There are however many customers that do not want to go as low as  $-150^{\circ}\text{C}$  /  $-180^{\circ}\text{C}$ . Some of them also have a problem with the in house availability of liquid nitrogen.

Even so liquid nitrogen storage containers (dewars) have a lot better insulation nowadays, and thus can store the available LN2 for a lot longer times, still in most cases the LN2 has to be delivered, because only big companies and Universities have on campus / side LN2 production machines.

A very good solution for these customers is the use of a closed loop Intercooler.

This Intercooler produces cooling media which can cover a temperature range starting from  $-30^{\circ}\text{C}$ . This cooling media is pumped through insulated hoses through the low temperature furnace.

The cooling liquid is always continuously pumped through the furnace. The furnace is heated against this low starting temperature. This way we can reach temperatures up to  $500^{\circ}\text{C}$  with starting temperature as low as  $-30^{\circ}\text{C}$ . This temperature range can be heated and cooled with controlled speeds.

This combination of low temperature furnace L75/264 and of the Thermo Haake Intercooler can be used for all different types of dilatometers, like in this application for a dilatometer L75H500LT.