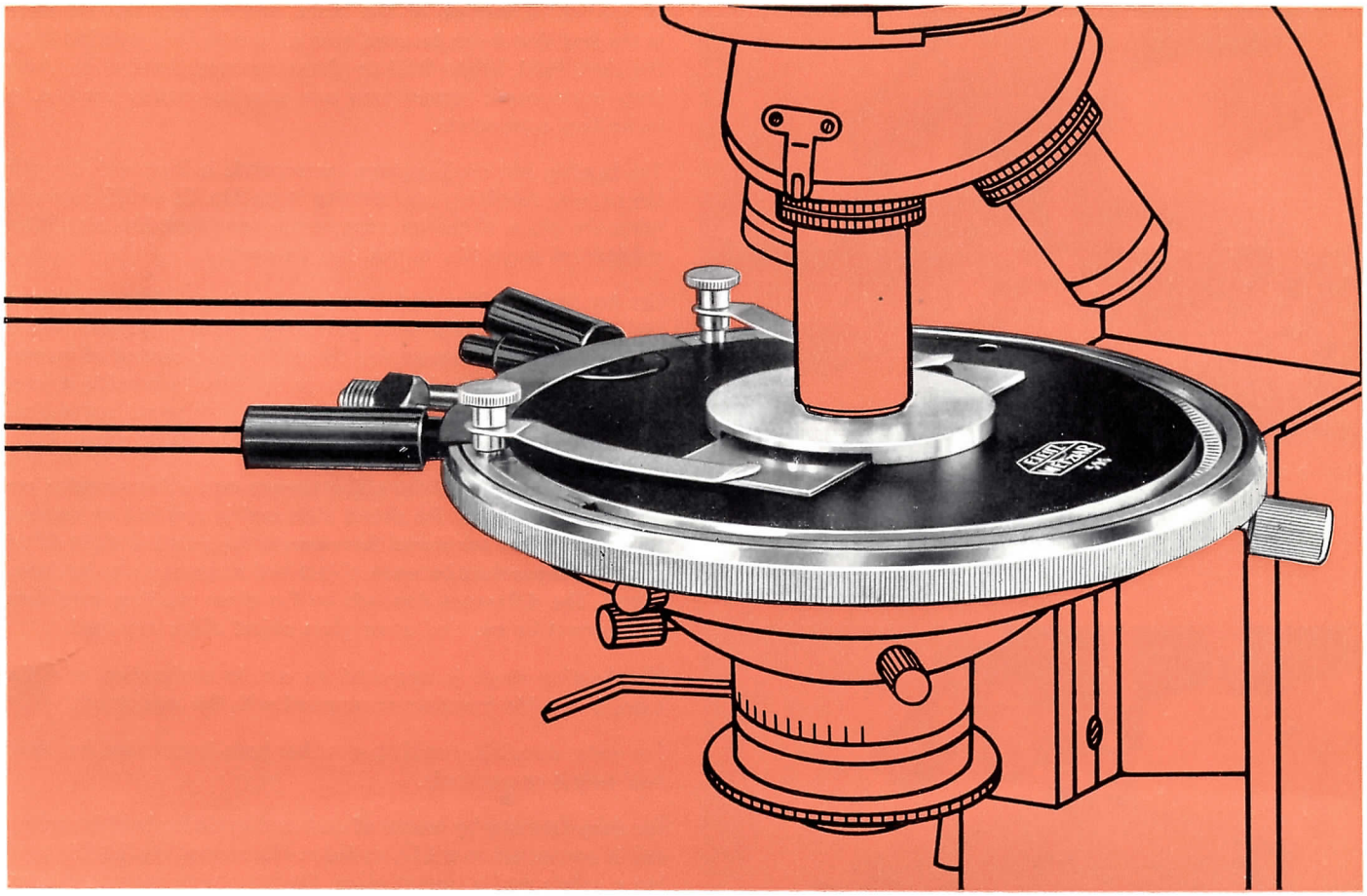

Heating and Cooling Microscope Stage 80

with automatic thermo-regulation

The heating and cooling stage 80* with automatic thermo-regulation permits observations at constant or varying temperatures between – 20° and + 80° C (– 4 up to + 176° F). It is thus particularly suitable for the cultivation and observation of living micro-organisms, and permits controlled increase or decrease in temperature during the actual period of observation. Below we give some examples of the many fields of application for this versatile instrument:

Microscopical observation of tissue and cell cultures.

Bacteriological investigations.

Other microscopical examinations of living organisms at constant or regulated temperature (e. g. sperms, blood cells, worm larvae).

Temperature regulation during crystallization reactions of inorganic and organic substances.

Observation of paraffin crystals in oil-solvent mixtures at constant low temperature (using the nitrogen chamber).

Processes for measuring turbidity, solidification and melting points.

Swelling processes at raised temperatures in fibre substances, foils, belts, hides and leather (ready-woven fabrics in special liquid cuvettes).

Qualitative and quantitative control of washing processes at constant or rising temperatures; emulsion experiments with fats, oils and waxes.

Dissolution of precipitates on textile fibres (e. g. lime, iron, or manganese compounds).

Peptisation of albumen substances, casein, etc.

* as suggested by Dr. Eisenberg

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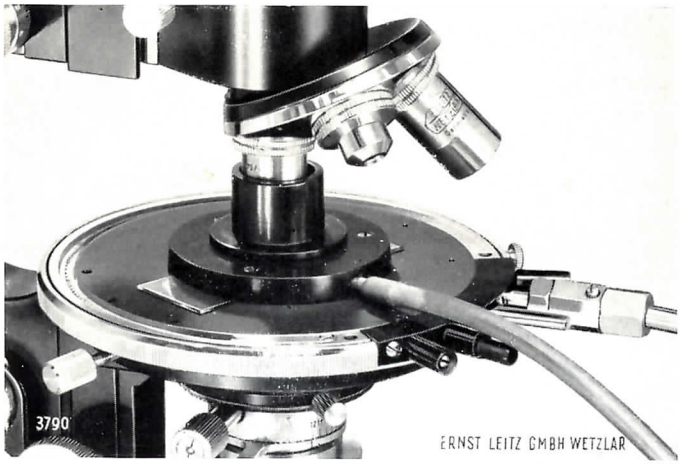
Heating stage with temperature stabilizing chamber



Cooling stage with nitrogen chamber and cover tube to protect against the outside air

A special advantage of the LEITZ heating and cooling stage is the fact that it can be used with all condensers supplied by us for dark field, bright field or phase contrast illumination. Auxiliary microscopic apparatuses can also be readily used, e. g. polarizing equipments.

The heating and cooling stage corresponds in form and size with the circular revolving and centring stage No. 23 or 223 resp. and takes the place of the interchangeable top plate. The attachable mechanical stage No. 43 can also be used.

For heating, cooling and freezing, the stage plate contains a built-in electric heater with automatic thermo-regulator and a cooling cell. The thermometer for setting and control of temperature is mounted flush in the stage in order to provide a level surface. A temperature stabilizer in form of a round metal plate with central opening can be placed over the object slide.

For exact measuring of the object temperature a thermometer can be placed on top of the object slide and is supplied on request. By means of this additional thermometer the possible slight difference in temperature between object and stage can also be determined. The difference depends on the given working conditions and cannot be avoided when glass object slides are used.

The heating stage is operated on a.c. in conjunction with the special variable transformer supplied with this equipment.

For water circulation cooling a rubber hose is provided for input and output respectively.

For deep-freezing by means of carbon dioxide the built-in cooling cell is connected to a CO_2 cylinder. The connecting flexible pipe has a safety and a closing valve, the latter with operating lever.

The safety valve is set for a maximum pressure of 3 atmospheres in the stage in order to protect it against damage by excessive pressure due to inexperienced handling.

To prevent the frosting of cover glass and object slide at low temperatures a nitrogen compartment can be placed over both. In addition it is also possible to protect the object from the surrounding air by a cover tube.

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