

MANUAL OF INSTRUCTIONS

2 MAY 1966

INSTALLATION

- Every possible precaution must be taken against shocks when unpacking the instrument; in fact shocks can damage either pointer or regulating device.
- After fastening the instrument to the panel, remove the provisory short circuit staff consisting of a wire closed between terminals (+) (-) of thermocouple.  
Short circuit staff serves only during transport to brake movement of movable coil.
- As can be seen the instrument has a red pointer (E) placed on the left side of a red line on the scale. This disposition is given in order to stop both the pointer and regulating device during transport. Of course, before putting the instrument in working the short circuit staff must be removed displacing red pointer (E) with rotation of one or both frontal lateral knobs at the scale.
- If and when it is necessary to disassemble and transport the instrument it will be necessary to apply short circuit staff between terminals (+) (-) and replace red pointer on left side of red line on the scale.

CONNECTIONS

- Connect the instrument as per scheme of drawing No. E.10023.
- Before effecting connections inspect whether voltage and frequency of the line correspond to the ones indicated on terminals "Linea".
- Terminals H.C.L. are connected with a mercury bulb (M) which can switch off a 2 ampere current (max). The bulb is placed so that it can switch off current when temperature reaches the value indicated by red pointer and switch on the current once again when temperature tends falling in comparison with the fixed one.
- Thermocouple (TC) must be connected with terminals (+) (-). Check carefully the polarity keeping in mind that our cable (+) is red colored. Connection with thermocouple is made by means of a compensating cable.

## ROOM TEMPERATURE

When the machine is not running the <sup>Black</sup> red pointer (I) must indicate the room temperature.

The regulation of room temperature is effected with screw countersigned "Regol. Temp. Amb."

## POT TEMPERATURE REGULATION

To fix temperature of regulation (which corresponds to degree of melting of the alloy employed) move the red pointer (E) on the scale to desired temperature turning one or both knobs placed at the upper frontal part of the instrument.

## IRREGULAR FUNCTIONING

Lack in functioning of tilting device (B) even when switch of the supplying line of the instrument is off. In this case there does not result the periodical movement of the tonguelet on left side of the scale:

- a) Check whether there is current on terminals of instrument marked "Linea" (L - L).
- b) Should there be current, check if voltage corresponds to the one marked on the box of the instrument.
- c) If between connecting terminals L-L there is voltage, check circuit continuity of tilting device (B) by tilting it now to one side now to the other, so that to close now one now the other of the circuits which comprehend the solenoids placed inside the tilter (B).
- d) If continuity of tilter coils should also be found in good conditions, defect must be looked for in core tube which in this case is to be replaced.

Every time the core tube is to be removed, it is absolutely necessary to avoid reversal of fixing bolts: generally they are of a different weight as they serve not only to fix tube but also to equilibrate the whole.

Before replacing core tube, check mercury bulb, which serves as a selector switch, if there are no cracks: in this case mercury results blackened by oxidation.

NON-FUNCTIONING OF REMOTE CONTROL SWITCH ALSO IN CASE  
OF REGULAR FUNCTIONING OF TILTER

Remote control switch does not stick again, that is it does not close the circuit which supplies the pot.

- a) Check whether coil of remote control switch has not burnt out. Should it still be good, remove wires of the instrument which are connected with terminals marked CL and close them in short circuit. If remote control switch does not close look for the cause in an interruption of circuit which is part of the external part and feeds remote control switch itself.
- b) If after operated as indicated in point (a) regular functioning of remote control switch is not obtained remove instrument from frame and check mercury bulb and relevant connections.
- c) If coil of remote control switch should result burnt out, it becomes the cause of short circuit, and generally it causes melting of connections which pass from mercury bulb (M) to terminals. Replacement of these connections is to be made only with original SAE braiding wire which is a very flexible type and suitable to fuse in case of short circuit, before mercury bulb bursts.

IRREGULARITIES IN MOVEMENT OF TILTING DEVICE

Small red signal (I) on the scale lowers irregularly, that is oscillations are sudden or continuous or alternated with periods of sudden and normal oscillation.

- a) In this case, the core tube must be changed, it is certainly defective.

IRREGULARITY OF QUICK BREAK

Regulation takes place before point prefixed by red pointer (E) that is remote control switch is switched off at a lower temperature than that prefixed:

- a) Look for the cause by checking prebar (N) in case it will not result free in comparison with the bar (O).
- b) Check whether tonguelet of prebar at its hind-part which rests under the bar is not dirty with oil or with other adhesive substance, thus stopping bar itself in its descending movements.

#### REMARKS

Sometimes in the functioning of tilter (B) hardening caused by dirt or deformations may be noticed: pins are not free in their bearings. In this case clean pins but do not lubricate them with common oil. Slightly grease them using only the kind of oil which is used for lubricating clocks.

Autoregolatore Temperatura Crogiuolo E 10.010

Pot Temperature Controller E 10.010

Pyrometer des Giesstopfes E 10.010

Regulateur Température du Creuset E 10.010

Parti di ricambio - Spare Parts - Ersatzteile - Pièces de rechange

- A - Interruttore di alimentazione (a mercurio)
  - Supply Line Switch (mercury bulb)
  - Zuleitungs-Quecksilberroehre
  - Interrupteur (ampoule à mercure)
  
- B - Organo oscillante - Ribaltatore (completo)
  - Tilting device (complete)
  - Thermostat-Kipper komplett
  - Redresseur (complet)
  
- C - Nucleo per ribaltatore
  - Tilting Solenoid Armature
  - Kipper-Roehre
  - Tube porte barrette
  
- M - Interruttore di controllo (a mercurio)
  - Control Switch (mercury bulb)
  - Hilfs-Quecksilberroehre
  - Interrupteur de contrôle (ampoule à mercure)
  
- b - b' - Bobina per organo oscillante
  - Solenoid for Tilting Device
  - Thermostat- Spule
  - Solénoïde pour redresseur
  
  - Custodia completa con frontale
  - Box Complete with Front Cover
  - Gehaeuse mit Deckel
  - Boitier complet
  
  - Frontale con vetro
  - Front Cover with Glass
  - Gehaeusedeckel mit Glas
  - Partie antérieure boitier avec glace
  
  - Vetro per frontale
  - Glass for Front Cover
  - Skalenglas
  - Glace

(Vedi Dis. E10.023 - Please see Draw. E10.023 - Siehe Zeich. E10.023 -  
Voir dessin E10.023)