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OPERATING INSTRUCTIONS MODEL MT-400 HAND HELD LANCE PYROMETER

The model MT400 portable pyrometer uses an enclosed 8" thermocouple probe to sense the temperature of a variety of molten metals. It is rugged and portable which makes it an ideal tool for the foundry and the laboratory. 12" and 15" thermocouples are available upon request.

The MT400 pyrometer consists of a temperature compensated instrument, mounted within an aluminum housing. The thermocouple tip is connected to the movement through a lance tube through the back of the aluminum housing. The basic instrument accuracy is better than 2% of full scale.

ASSEMBLY OF THE PYROMETER

To prevent damage, the pyrometer has been shipped with the meter and handle grip in one carton, and the tip and lance within another.

Begin by removing the two screws holding the meter frame to the handle grip. Lay the meter portion aside. Next, loosen the set screw protruding down through the large hole drilled in the back of the handle grip and slide the lance tube up through the hole and tighten the set screw down against the tube. Now loosen the set screw on the end of the lance enough to allow the tip to be threaded up through the tube. Tighten the square head set screw down against the tip into the indentation in the upper portion. This will secure the tip.

ATTACHING THE TIP TO THE METER

Place one brass washer down over the terminal post on the back of the meter. Place the fork end of the wire on next, note the yellow wires attaches to the + post and the red wire attaches to the - post. Place another washer on top of the fork, and tighten the assembly down with a brass nut. Repeat this procedure on the second terminal. Reattach the meter frame and handle grip with the two screws removed earlier.

MAINTENANCE

For best results the instrument and tips should be kept as clean as possible, and stored in a safe and dry area. For best results, clean the tip are each day's use with a wire brush while it is still warm. We advise checking the accuracy of your meter at least once a year.

LANCE AND TIP REPLACEMENT

First, loosen the two screws on the back of the handle grip, freeing the meter from the handle. Remove the nuts from the terminal post and pull the tip down and out of the lance. Install new tip by following the above steps.

(OVER)

USING THE MT400 PYROMETER CORRECTLY

The MT400 pyrometer should be used only for temperatures of 2350 degrees F or less. Ferrous metals with higher temperatures will damage the Inconel casing and melt the wires inside.

The temperature of the melt can be taken either down through the center hole in the lid with the furnace off or after the crucible has been removed from the chamber.

Prior to taking your reading, preheat the tip over the exhaust port of the heating furnace. Heat the tip to a temperature above the melt temperature. This will help to reach a quicker reading and prolong the life of the tip. Now, with the furnace turned off, place the tip down into the melt and you should get an accurate reading in a few seconds.

DO NOT place more than 2" of the tip down within the melt. Plunging to the bottom of the crucible will melt your lance tube, causing you to have to order a replacement.

COMMON PROBLEMS

Check for bent needle if meter was dropped

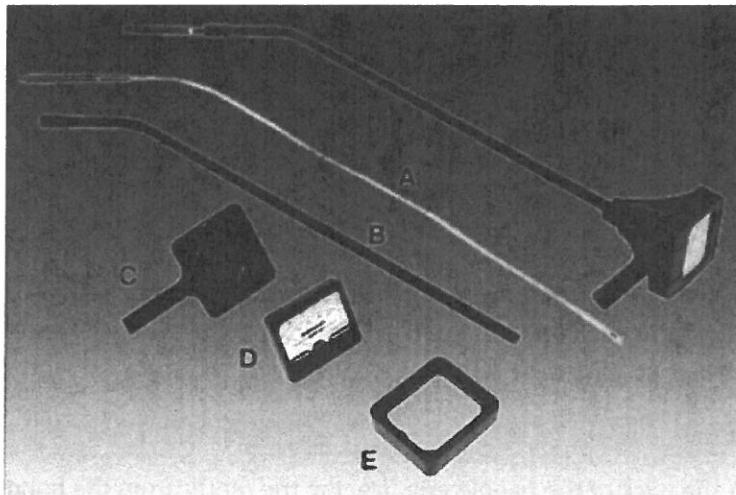
Be sure yellow wire is to positive and red is to negative

Check for pin hole in black portion of tip

Check for burnt nipple-wires inside nipple will burn if left in melt too long-results in no reading

Pyrometer should give room temp when not in a melt

Dirt particles attached to dial magnet will cause it to drag



A 004041 8" tip

B 030874 lance

C 030871 handle grip

D 004430 meter

E 030870 frame