GAS-TECH® & GAS-TECH II™

OPERATING INSTRUCTIONS

To insure safe, accurate and trouble-free operation of the Gas-Tech®, read all of the following instructions carefully before starting unit. Visually inspect unit for missing or broken parts.

1. Read the vacuum gauge calibration instruction information. Check gauge calibration. Re-calibrate if necessary.

2. Heat metal crucible to approximately 400° F. When the crucible has reached 400° F, coat all surfaces with an insulating mold coating (vermiculite/sodium silicate). Follow immediately with a release type mold coating (graphite/sodium silicate), coating all surfaces.

3. Locate Gas-Tech® equipment adjacent to metal being sampled. Preferably within 4 to 6 feet of furnace.

4. With crucible held in tongs, skim surface of molten metal 2 or 3 times to remove oxides and to preheat crucible prior to taking sample. Take sample by dipping crucible into molten metal and filling it.

   CAUTION: Make sure crucible is completely dry before skimming or dipping in molten metal.

   NOTE: The sample should be taken from the exact area of production ladling, because the gas level in the dip-out well varies. However, ***for operator's safety***, the sample should be taken from an area of the dip-out well that is not being disturbed by the addition of a gas or tablet (i.e. nitrogen, Nucleant 2, Napak, etc.)

5. Place crucible with sample on refractory disc in vacuum chamber base plate and cover with vacuum chamber.

6. Turn switch on to start vacuum pump, and hold under reduced pressure for approximately seven (7) minutes.

   NOTE: When testing aluminum for permanent mold castings, set vacuum at 26 inches of Hg. For sand castings set at 28 inches of Hg.

7. After approximately seven (7) minutes have elapsed, turn vacuum pump off and release vacuum pressure by depressing vacuum release button. Lift vacuum chamber and remove crucible with sample.

   NOTE: The vacuum chamber should always be placed on the base plate after usage, to protect the O-ring from damage.

8. Remove sample from crucible, and place under water to cool.

9. Saw sample in half, and buff one half with 120 grit abrasive on either a belt or disc sander.

10. Sand blast buffed surface, and compare hole sizes in sample with a previously determined standard.

    CAUTION: DO NOT attempt to restart the vacuum pump under the presence of vacuum, because damage to the pump may result. Always depress the vacuum release button prior to restarting pump.

    The vacuum pump supplied with this unit is manufactured to be oil-less. **DO NOT** attempt to use oil in the air filter.