OMEGA VANZETTI®
The Leader in Infrared Temperature Measurement and Control

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CONTROL OF CRYSTAL GROWING

$2,800.00
BASIC SYSTEM

In semiconductor manufacturing, silicon and germanium crystals must be grown from their molten state. Similar growth procedures apply for the crystals used for lasers. In all these operations, the perfect lattice structure of the crystal is of paramount importance. The temperature of the meniscus between the molten material and the emerging crystal is the element controlling the diameter of the "carrot." The heat necessary to keep the molten material at optimum temperature is supplied by an RF energy field. This prevents the use of conventional temperature measuring devices and even the proximity of the infrared detectors.

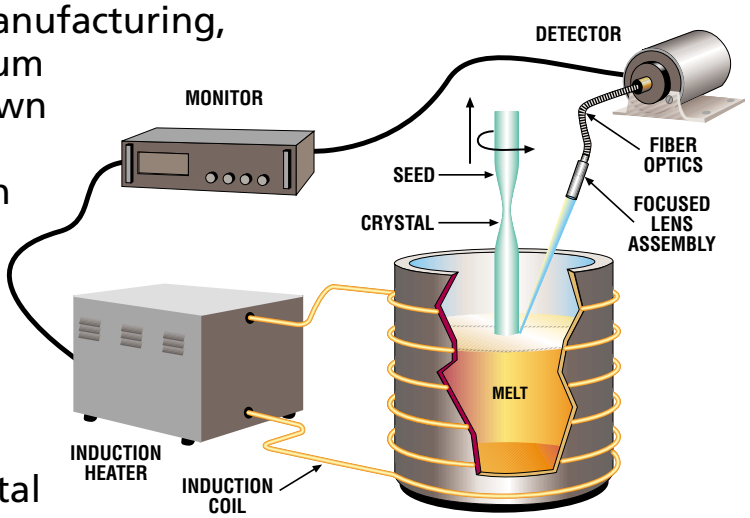

FIG. 1 – CRYSTAL GROWTH CONTROL.

The **OMEGA VANZETTI®** Non-Contact Fiber Optic Monitor is the ideal solution for this application.

Advantages of the fiber optic infrared approach as illustrated in Fig. 1 are:

- Fast response time to 10 mSec (0 to 63%)
- Wide temperature range of operation (in sub ranges)
- Wide variation of spot sizes and target distances
- Non-contact viewing
- Ability to allow precise control of the temperature through a feedback loop acting directly on the induction heater power
- Optional output include: 4-20 md, 0-10 vdc and thermocouple types "J" or "K"
- Higher quality yield of product
- Adjustable emissivity control