Manifold Molecular Iodine Cells

(Product ID: I2M-5, I2M-10)

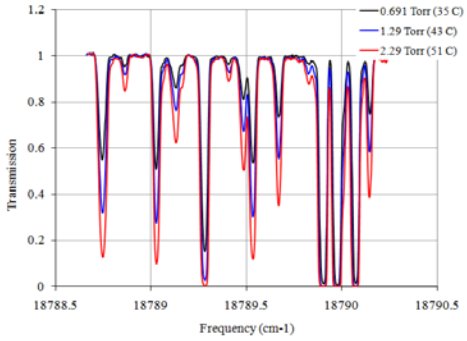
To create a sealed starved cell with a flexible set point, a glass cell with an attached cold-finger and vacuum port is constructed. The vacuum port and cold-finger include stopcocks. The cell is evacuated and cold-finger filled with Iodine is brought to the desired vapor pressure (cold-finger operating temperature). The stem between the cold-finger and cell is then closed by closing the stopcock, isolating the Iodine in the cell body and fixing the number density. The cell is then operated 10-20 °C above the cold-finger set temperature and the Iodine in the cell is a super-heated vapor with a set number density. The result is a molecular cell with a very stable absorption spectra.

Iodine-vapor cells with a manifold are 3-in.-dia, 5-in.-long or 10-in.-long Pyrex cells. Standard cells are manufactured with 1/4 grams of iodine (actual pressure determined by temperature of water cooling jacket at the time of operation). In addition, transitions can be pressure broadened with buffer gas supplied by user through a fill-port.

Packaged I2M-10 with thermocouples and heater

SPECIFICATIONS FOR I2M-5 AND I2M-10

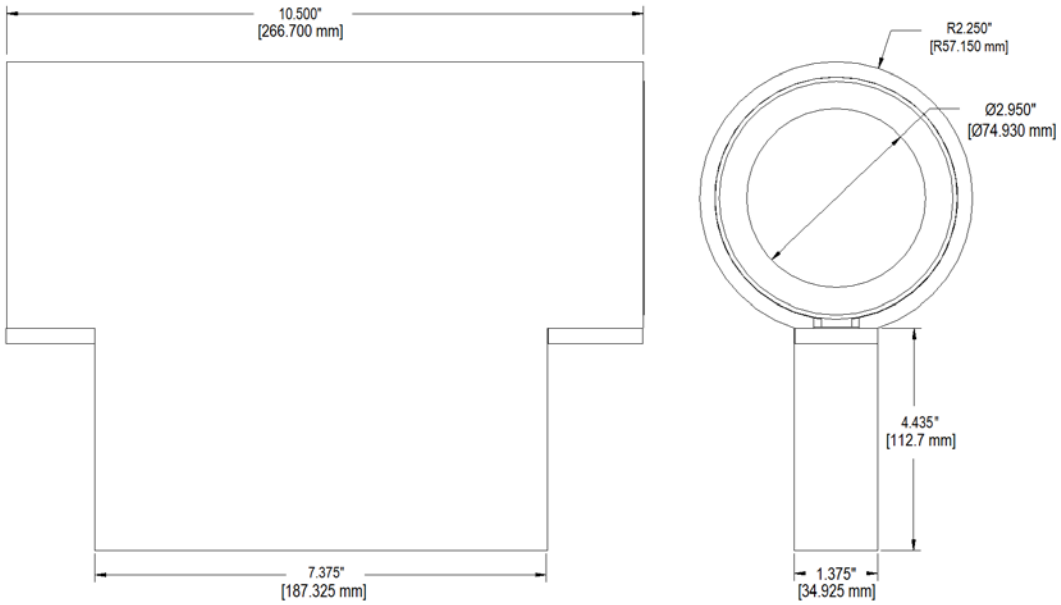
Length	125-mm or 250-mm
Diameter	76-mm
Housing	Anodized Aluminum
Mounting	¼"-20
Maximum Operating Temperature	130 ˚C
Set Point	30˚C - 50˚C
Thermocouple	Type T
Temperature Controller	Optional add-on
Input Power	110 VAC, 60 Hz
Warranty	1 year
ECCN	EAR99



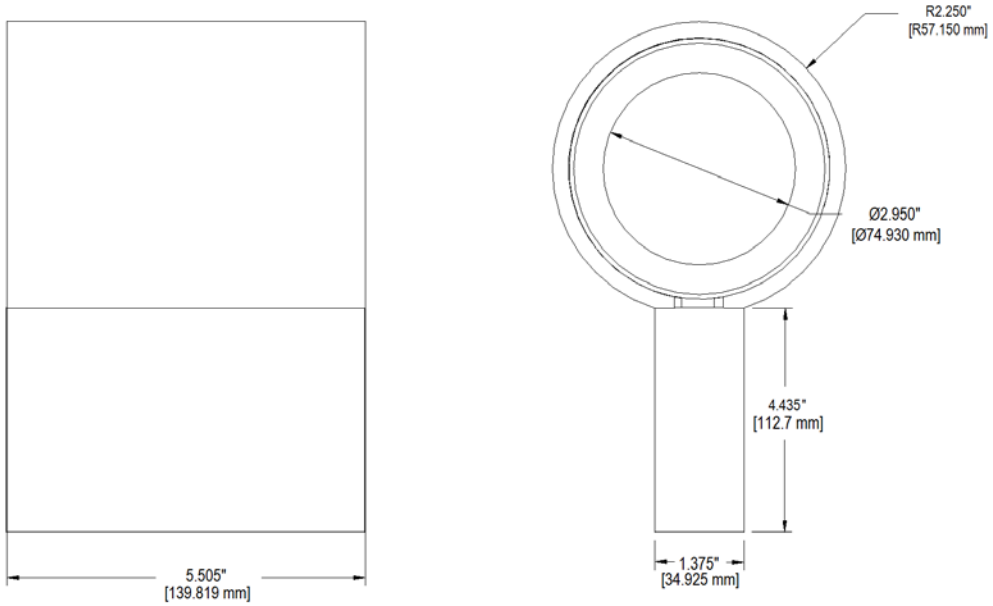
Transmission versus frequency for 5-inch iodine cell at a range of cold-finger (vapor pressure) set points.

Side view of I2M-10 cell design.

Innovative Scientific Solutions, Inc.
7610 McEwen Road, Dayton, OH 45459
Phone (937) 630-3012, Fax (937) 630-3015
email: issi-sales@innssi.com
web: www.innssi.com



I2M-10



I2M-5

Innovative Scientific Solutions, Inc.
7610 McEwen Road, Dayton, OH 45459
Phone (937) 630-3012, Fax (937) 630-3015
email: issi-sales@innssi.com
web: www.innssi.com