

### Microwave Digestion Instrument iWave® Sensor Comparison Guide

cem.com/iWave



## Ok

(non-iWave) IR sensor from side

### Accuracy

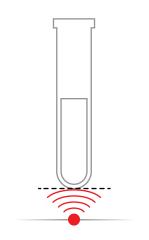
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### Convenience

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### **Overview**

The temperature is measured from the side at a considerable distance between inner and outer rows. The vessel must be filled to a minimum volume (typically 10 mL) in order to be able to measure the signal.



## Good

<sup>(non-iWave)</sup> IR sensor from below

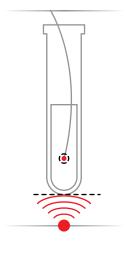
Accuracy

### Convenience

### **Overview**

The temperature is measured from the bottom, in close proximity to the vessel. This provides a more consistent signal and the minimum volume in the vessel can be greatly reduced.

IR sensors provide good sensitivity for EPA and other easy to digest materials prepared at moderate temperatures.



## Better

<sup>(non-iWave)</sup> IR sensor with fiber-optic probe & sensor from below

### Accuracy

 $\textcircled{\begin{tabular}{c} \bullet & \bullet \\ \bullet & \bullet \\$ 

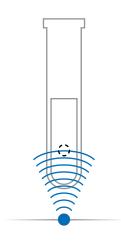
### Convenience

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### **Overview**

A probe is submerged, which allows the sample temperature to be measured from the inside of the vessel. This is very accurate, but not very convenient to set up.

A single probe is used in a control vessel and all other vessels have to be calibrated against the control vessel.



# Best



### Accuracy

### Convenience

### **Overview**

iWave has all of the strengths, and none of the weaknesses of previous sensor technology.

It's as accurate as using a probe inside the vessel because it sees though the surface of the vessel and measures the light emitted from the liquid using LET technology.

iWave measures the temperature of the solution in all the vessels eliminating the need for a reference vessel.

It's as easy as contactless sensors, but with the accuracty of a submerged probe.

