### Volume of a Truncated Cone

![Diagram of a truncated cone](image)

The volume of a truncated cone is given by the formula:

\[
V = \frac{1}{3} \pi h (R^2 + r^2 + Rr)
\]

where:
- \(R\) is the radius of the base circle,
- \(r\) is the radius of the top circle,
- \(h\) is the height of the cone,
- \(H\) is the distance between the centers of the base and the top circles,
- \(I\) is the apothem or distance between any two closest points on the base and the top circles.

The selection of measurement unit is optional.

### Crucible Info Page for E-beam Thin Film Deposition Machines: BWall Feb 2015

<table>
<thead>
<tr>
<th>Diameter (in)</th>
<th>Diameter (in)</th>
<th>Height (in)</th>
<th>Vol (in3)</th>
<th>Vol (cc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temescal</td>
<td>1.5185</td>
<td>1.1195</td>
<td>0.677</td>
<td>15.27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part #s</th>
<th>EVCEB-13</th>
<th>EVCEB-13M</th>
<th>EVCFABEB-13</th>
<th>EVCFABEB-13M</th>
</tr>
</thead>
<tbody>
<tr>
<td>GenVac</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crucible Part #s**

- EVCEB good for Al-Ge alloys, Al-Si alloys, B, Be, Bi, CdS, CeO2, Cr, Cu, Ge, In, Mg, Mo, Na3AlF6, Pd, Pt, Sb, SiO, SiO2, Sr, Ta, Ti, Y2O3, Zn
- EVCFABEB good for Ag, As, Au, Ga, GeO2, Ni-Cr alloys, Pb, Se, Sn, Te, and TiO; OK for Al; single run Fe, Ni, and Si
- 'M' grade crucibles have wall thickness doubled so that volume is roughly halved. 8.2 cc vs 3.9 cc for *-13 vs *-13M

Kurt Lesker e-beam crucibles for Temescal: