larger tank enclosure need in VCB:

- Vacuum breakers allow for other insulation media than SF6 to be used. choice of insulating gas is dry air, nitrogen, CO2, the insulation performance will be inferior, compared to SF6 at the same pressure.
- Voltage division within VI is adversely affected by the stray capacitances to the tank, which might result in a larger, higher rated-voltage VI being required. Applying VCB in GIS, some aspects have to be considered:
  The stray capacitances from the VI(mainly the shield)to the vessel lead to an inhomogeneous voltage distribution.
• The distance to ground is much smaller thus leading to higher electric field stress within the vacuum interrupter
• The bellows have to operate against a high pressure gas thus increasing the drive energy and the bellows experience higher mechanical stress
• Heat exchange to the outside is more severe for VCB due to encapsulation thus leading to increased copper stem diameters
• The VI length itself could be smaller than the SF6 interrupter
• The insulating gas of VCB can be chosen independently
• X-ray effects to the outside will be reduced by the GIS-enclosures (unless they are cast aluminum)

Photo shown a HVCB in deadtank type with gas.