

Helium-pycnometer AccuPyc® II 1340

Description of facility

The Helium-pycnometer AccuPyc® II 1340 from Micromeritics is used to determine skeleton density of porous materials as well as the true density of powders. This reliable method is non-destructive since it uses inert gases as the displacement medium for volume measurement. Gas displacement is done with helium as the gas molecules fill even small pores with the size of only one angstrom rather fast. The weigh out sample is sealed into a chamber of defined volume (14,44 mm in diameter and 9 mm height). Helium is filled into the compartment and then discharged to another specified volume. The different pressures of the gas in the filled sample chamber and after expanding the gas to the second chamber are used to calculate the skeletal volume and with this the skeletal density. To avoid measurement uncertainties the sample chambers should be filled with a maximum of material. One measurement takes about 20-30 minutes.

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This handout, and cross-references to related measurement techniques and facilities are available at: <http://messtec.dlr.de/link-583-en>.