

5.3: Other Systems of Units

CGS Systems of Units

In some fields of physics (e.g. solid-state physics, plasma physics, and astrophysics), it has been customary to use CGS units rather than SI units, so you may encounter them occasionally. There are several different CGS systems in use: *electrostatic*, *electromagnetic*, *Gaussian*, and *Heaviside-Lorentz* units. These systems differ in how they define their electric and magnetic units. Unlike SI units, none of these CGS systems defines a base electrical unit, so electric and magnetic units are all derived units. The most common of these CGS systems is Gaussian units, which are summarized in [Appendix 63.9](#).

SI prefixes are used with CGS units in the same way they're used with SI units.

British Engineering Units

Another system of units that is common in some fields of engineering is *British engineering units*. In this system, the base unit of length is the foot (ft), and the base unit of time is the second (s). The base unit of force is called the *pound-force* (lbf), and mass is measured units of *slugs*, where 1 slug has a weight of 32.17404855 lbf.

A related unit of mass (not part of the British engineering system) is called the pound-mass (lbm). At the surface of the Earth, a mass of 1 lbm has a weight of 1 lbf, so sometimes the two are loosely used interchangeably and called the *pound* (lb), as we do every day when we speak of weights in pounds.

SI prefixes are not used in the British engineering system.

5.3: Other Systems of Units is shared under a [CC BY-NC-SA 4.0](#) license and was authored, remixed, and/or curated by LibreTexts.