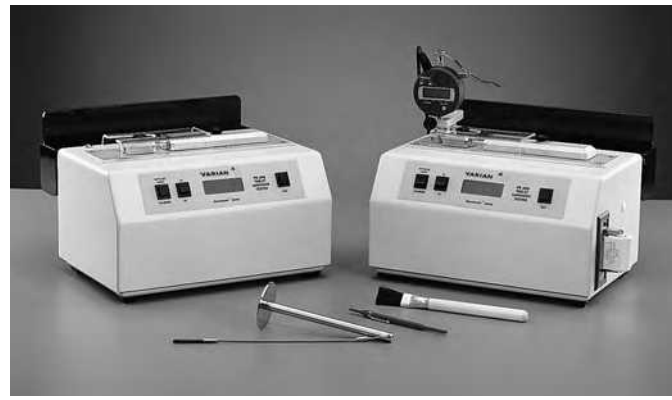

FIGURE 8.13 Tablet hardness tester. (Courtesy of Varian Inc.)

disintegration also is important for tablets containing medicinal agents (such as antacids and antidiarrheals) that are not intended to be absorbed but rather to act locally within the gastrointestinal tract. In these instances, tablet disintegration provides drug particles with an increased surface area for activity within the gastrointestinal tract.

FIGURE 8.14 Varian friabilator testing apparatus for rolling and impact durability. Tablets are weighed and placed in the acrylic drums, in which a curved baffle is mounted. When the motor is activated by setting the timer, the tablets roll and drop. If the free fall within the drum results in breakage or excessive abrasion of the tablets, they are considered not suited to withstand shipment. The motor makes 20 rpm. When the tablets have been tested, they are removed and weighed again. The difference in weight within a given time indicates the rate of abrasion. (Courtesy of Varian Inc.)

All USP tablets must pass a test for disintegration, which is conducted in vitro using a testing apparatus such as the one shown in Figure 8.15. The apparatus consists of a basket and rack assembly containing six open-ended transparent tubes of USP-specified dimensions, held vertically upon a 10-mesh stainless steel wire screen. During testing, a tablet is placed in each of the six tubes of the basket, and through the use of a mechanical device, the basket is raised and lowered in the immersion fluid at 29 to 32 cycles per minute, the wire screen always below the level of the fluid. For uncoated tablets, buccal tablets, and

FIGURE 8.15 Tablet disintegration testing apparatus. (Courtesy of Varian Inc.)