Folding machine

A fold (in paper) can be made by a Buckle or a Knife. There are generally three types of folding machines. Buckle Folders, Knife Folders or a Combination of these two types.

Buckle Folders work by feeding the paper at high speeds until it hits a stop. The reaction of the paper is to buckle. High friction rollers will then grip the paper and pull it through, that is, the paper is folded by being squeezed between two high friction rollers. The grip of the rollers is caused by the help of rubber or PU. The front edge of the paper went into a so called "pocket". The rollers press on each other by help of a spring. The distance between the rollers can be set.

The Knife Folding system works by striking the paper with a knife between two rollers. This knife is not actually sharp enough to cut through the paper, it simply strikes the paper along the line through which the fold is desired. Many modern folders however, have a combination of both knife and buckle folding mechanisms. Buckle Folding is the more popular of the two methods, however, Knife Folding is sometimes preferable, for example, when the paper is thick, used as cross-fold or in cases when the paper has been stitched direct in the folding process (Faden Siegeln). Stitched sheets can ruin high friction rollers by parts of the melted thread. Some of the most popular folders used by printing companies and binders are, M.B.O. (Machine Builder of Oppenweiler), Stahlfolder (now by Heidelberg), GUK, Horizon and Baumfolder.

There are 2 types of feeding systems used by folders. The first is flat pile, this is were the paper is placed on a feeding table and each sheet is then transported into the machine by friction or an air-controlled suction-wheel. A variation of this is palletized feeding. This is the case where an entire pallet full of paper may be placed on the feeding table. The second type is called "round pile"; this involves the sheets being placed onto a belt on a table or rollers, which takes it around the end of the machine and then each sheet is individually pulled into the machine by an air-controlled suction-wheel. The sheets of paper will be separated by help of blowing air between.