A systematic analysis of the changes of sector

When a feed stream is considered (GF), whatever its physical condition, it is commonly assumed to be introduced to a single tray leaving this feeding stage (L and V) are considered to be in equilibrium and the separation between the liquid (L) and IP, which define the optimum position for the side stream, are located in the diagrams. The example in Fig. 1b shows the case any feed condition, together with the different possibilities to extract products or to add or remove heat.

**Differences between the classical and ZCCS analysis**

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A systematic analysis of the changes of sector

A systematic analysis of the different possible situations is presented in Figure 3. This analysis does not only show the relationships occurring among the ZCCS but also between them and the rest of the streams at the previous or subsequent stages. The streams developed in the rectification column can coincide with one of the vapour (V_{gf}) or liquid (L_{gf}) portions generated from the generalized feed and then be coincident with one of both streams defining the ZCCS (i.e. V_{gf}, or L_{gf}), as shown in column 2 and 3 of the figure. Otherwise, the equilibrium steam streams can differ from those originated from the side stream and lie inside the ZCCS, which should only be used once during the tray calculations (column 4).