

filtration, washing and drying with the advantage of processing thinner filter cakes resulting in improved wash performance, shorter cycle times and potentially delivery of a largely dry product compared to the drum or belt filter.

13.7 Commercially Available Filtration and Drying Technologies

There are several types of commercially available fully continuous and semi-continuous solid liquid separation devices. Here, a selection of equipment has been identified which can operate at industrial scale and within an end to end continuous processing system. The technologies have been evaluated based on their known system attributes and use for separating and retaining solids as the product.

The following technologies have been selected as potential semi-continuous and fully continuous isolation, washing and drying devices for inclusion in an end-to-end continuous processing system.

- Rotary Drum Vacuum Filters
- Rotary Pressure Filter/Dryer
- Indexing Belt Filter
- Carousel Filter/Dryer
- Multiple-Stage Batch Pressure Filtration and Drying

13.7.1 Rotary Drum Vacuum Filters (RDVF)

The Filtration Services Ltd rotary drum vacuum filter is a continuously operating vacuum filter, pictured in Figure 13.12. RDVFs have been used for industrial filtration during the last 3 centuries. The technology was



Figure 13.12 Rotary drum vacuum filter (RDVF). Image courtesy of Filtration Services Ltd.