

Sinks may be discharged via double acting valves; hydraulically, by upward flowing currents; by air lifts; by wheel, drum or bucket elevators; or by belt or chain scrapers.

Processes are usually categorised as deep or shallow baths.

An important consideration is the amount of pseudo-liquid required. This is governed by the shape of the bath and whether the float products are removed by the overflow medium or mechanically. For a feed rate of 100 to 150 tons per hour the quantity of medium in circulation varies from 350 to 1,400 cubic feet depending upon bath geometry, while the volume flow rate of liquid varies between 2,500 and 17,500 cubic feet per hour.

Units in use include:-

Acco Drewboy	M.D.P.A.
Wilmot	Leebar
Humboldt	Teska
McNally - Tromp	Link Belt
McNally - Low Flo	Disa
Wemco, drum	Turpinson
Wemco, cone	de Vooy's
Neldco, drum	Barvoys

#### Stripa

The Stripa is a special type of dense medium separation which makes use of a shallow bath or launder. Sand-sized medium permits a higher S.G. of separation up to 3.4 with magnetite. Desliming of feed is not essential and a higher recovery of coarse medium solids is possible.

#### CYCLONES

The dense medium cyclone was introduced as a means of extending the principle of sink and float to the separation of fine particles. The limiting feed size for the usual gravity bath is of the order of  $\frac{1}{4}$ " this being governed by the rate of sedimentation and the rate of flow of the particle through the separator (residence time).

The cyclone making use of centrifugal force (up to 300 times gravitational acceleration in early units but now of the order of forty times) has permitted the dense medium separation process to be used on particles down to 0.5 mm size with top size of some  $1\frac{1}{2}$ ".