

Methods of DSP- Part II

⑤ Rotary Vacuum Filters:-

- It is usually used in industries which produce large vol of liquids which need continuous processing.
- Filter consist of rotating hollow, segmented drum covered with fabric which is partially dipped in trough containing broth to be filtered.
- Slurry is fed on outside of revolving drum and vacuum pressure is applied internally so that the filtrate is drawn through filter into the drum and finally to collecting vessel.

Advantages:-

- ① Efficient separation 799.9 cells /okwhon
- ② Closed system regarding containment of orgm
- ③ Separation is independent of cell and media densities.
- ④ No addition of filter aids

⑥ CELL Disruption methods:- MO are protected by tough cell walls.

in order to release cellular content A no of methods has been developed. Methods must ensure the preservation of heat labile material are not denatured or hydrolysed by the enzymes present in cell. Hence combination of methods are being used to get desired product with minimum contamination.

Methods available fall into two categories:-

Physio-mechanical methods

- ① Liquid Shear
- ② Solid Shear
- ③ Agitation with abrasives
- ④ Freeze thawing
- ⑤ Ultrasonication

Chemical methods

- ① Detergents
- ② Osmotic Shock
- ③ Alkali treatment
- ④ Enzyme treatment

a. liquid shear - used widely in large scale purification procedure of enzymes, and also used to process milk and other products in the food industry. In this method Microbial slurry passes through a valve (Non return) and impinges against opposite valve at a particular pressure. Cells then pass through a narrow channel and exist through narrow orifice results in cavitation in the cell.

b. Solid Shear : Pressure